

AUTOMATIC RETAILING

FASCINATING possibilities for the automatic retailing industry are suggested in these pages.

► Thus far its progress has been slow—even haphazard—it has lacked the stimulus of enthusiasm from the ranks of any group except its own. However, the dawn of a new day is here *if* the vending equipment manufacturer has the foresight to do the right sort of an educational job.

► Machine vending is now seen as the final step in the economic distribution of perishable foods and beverages. "Quick freezing," packaging and national advertising are factors in this development. Refrigeration is an absolute necessity. Therefore, the vending machine manufacturer naturally seeks the co-operation of the refrigeration industry.

► Alert and progressive, strong in financial resources, modern in manufacturing methods and skillfully versed in selling problems, the refrigeration industry is in a position to help. *But* the refrigeration industry has many claims on its interest and must be *sold* on the worth of the automatic retailing idea.

► Here—in Electric Refrigeration News—through consistent, well planned advertising, the idea can be sold. Manufacturers of vending equipment can build up interest in this allied powerful industry. They can acquaint refrigeration men with their mechanical problems—they can invite co-operation in the designing of equipment—they can show that *more business* for both industries will result from mutual effort.

► The News is pointing out the many fields in which refrigeration applications have an important bearing. Milk cooling, water cooling, quick freezing, air conditioning—to mention but a few—are competing for the interest of the refrigeration man. To learn of "the latest" in all these things refrigeration executives, engineers, sales experts, distributors and dealers read the News—and its advertising messages.

► Here, then, is opportunity for the vending equipment manufacturer. To him we say "Advertise! It will help you win the interest, confidence and co-operation of the refrigeration industry."

F. W. BRACK, *Advertising Manager*

ELECTRIC REFRIGERATION NEWS

The business newspaper of the refrigeration industry

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REFRIGERATION MEN GATHER IN NEW YORK FOR ANNUAL SESSION

A. S. R. E. Session Under Way With Full Program

New York, N. Y.—Refrigeration engineers are here from many parts of this country to hear about the latest developments in refrigeration at the twenty-sixth annual meeting of the American Society of Refrigerating Engineers, December 3rd to 6th. Headquarters are at the Hotel New Yorker.

After the opening formalities at the luncheon, the convention will plunge in action with a session devoted to refrigeration and food. Low temperature and quick-freezing will be two subjects at this session, which gives promise of attracting a large attendance.

There have been a few additions to the program that was printed in full in the November 19th issue of the News. At the Wednesday afternoon session, W. R. Woolrich, University of Tennessee, Knoxville, Tenn., will talk about "Factors Involved in Latent Heat of Food-stuffs." On Thursday morning, "Freezing and Melting Points of Fruits and Vegetables" will be taken up by Aubrey L. Smith, Mechanical Engineering Department, University of Tennessee.

G. A. Wegner is scheduled to discuss "Design of Float Valves" at the afternoon session on Thursday. "The Determination of Evaporator Capacity" will be the subject of a paper by L. A. Phillip and R. H. Swart, of Kelvinator Corporation, at the Friday morning session. D. C. Lindsay, research engineer, Carrier Corporation, Newark, N. J., at the joint meeting with the American Society of Mechanical Engineers, Friday afternoon, will have as his subject "Psychometry-Effect of Conditioning on Familiar Products."

The meeting will come to a close on Saturday with the morning meeting devoted to refrigerators and test codes.

DETROIT ENGINEERS PICK THOMAS FOR PRESIDENT

Detroit, Mich.—New Officers were elected and plans for 1931 were made at a meeting of the Detroit section of the American Society of Refrigerating Engineers, held at Webster Hall on the evening of November 24th. The number attending was not large, and after the ballots which had been sent in by mail had been counted, the meeting resolved itself into a round table discussion of the 1931 program.

C. C. Thomas, Kelvinator, was elected president. The new vice-presidents are Professor Hugh Keeler, University of Michigan, and Edward Barger, Copeland. F. B. Riley continues as treasurer, and John Wyllie, Jr., Kelvinator, becomes secretary.

During the coming year, several large meetings will be held at which subjects of general interest will be discussed, and there also will be sessions devoted to more technical problems. Suggestions in regard to subjects for the 1931 meetings were made by the members present, and a tentative list was prepared which will be submitted to the consideration of the new program committee headed by Professor Keeler.

Those present at the November 24th meeting, or rather at the dinner which preceded it, enjoyed cherry pies made from frozen Michigan cherries sent to the Detroit section by A. J. Rogers, of Traverse City, who was one of the speakers at the section's recent low temperature meeting.

Before the meeting adjourned, Mr. Thomas announced the appointment of the 1931 program and membership committees. C. F. Belshaw was chosen as the section's delegate to the A. S. R. E. Convention in New York. The committee members are:

Program Committee: Professor Hugh Keeler, Chairman; George B. Bright, George B. Bright Co.; F. M. Cockrell, ELECTRIC REFRIGERATION NEWS; Glenn Muffy, Copeland; Edward Barger; F. B. Riley, F. B. Riley and Associates; F. R. West; C. F. Belshaw; William Jabine, ELECTRIC REFRIGERATION NEWS; B. W. Palmer, Palmer Electric Co.; F. R. Erbach, Kelvinator, and John Wyllie, Jr.

Membership Committee: Edward Barger, Chairman; Owen Nelson, Norge; Harry Williams, Frigidaire; Don Ellis, Kelvinator; C. C. Spreen, Kelvinator; H. Spencer, Norge; Harry Thompson, Universal Cooler; E. E. Rouech, Frigidaire; G. R. Kingston, Frigidaire; T. S. Pendergast, Absopure; C. H. Tanger, Servel.

A Good Record

FOLLOWING precedent Harry D. Edwards will retire from the presidency of the American Society of Refrigerating Engineers at the close of the meeting now in progress in New York, and will be succeeded by Alvin H. Baer, of the Frick Company, Waynesboro, Pa. Mr. Edwards leaves his high office with the satisfaction of knowing that the Society has prospered during his term, and best of all, that the Standard Safety Code sponsored by the A. S. R. E. has at last received the approval of the American Standards Association.

Mr. Baer will begin his service as president with a thriving organization under his direction, and a great opportunity to further the interests of one of the nation's fastest growing industries.

FOR THE ARCHITECT

BECAUSE of the fact that the architect is constantly seeking specific information about refrigerators in order that he may make proper provision for them in his plans, this issue of the Buyer's Guide has been planned with his interests in mind. The pink section contains several charts giving cabinet specifications, so arranged that the architect may find without difficulty the refrigerators most suitable for the work he has in hand.

The next issue of the Buyer's Guide (December 17th) will contain similar charts giving compressor specifications.

Refrigeration Books

REQUESTS for information in regard to books on refrigeration are frequently received by ELECTRIC REFRIGERATION NEWS. On page 13 of this issue there is printed a brief review of the subject matter covered by seven of the books best known in the field.

Any perusal of refrigeration literature makes it apparent that the domestic branch of refrigeration is not adequately represented in the literature of the industry. Of course, it is true that the best men in the industry are so busy building refrigerators that they do not have time to write about their work, but nevertheless the industry is hopefully awaiting the appearance of works that give household refrigeration a better break than it has had thus far.

WESTINGHOUSE PUTS WIDER DISTRIBUTION PLAN INTO OPERATION

National Magazines and Radio to Carry 1931 Sales Message

Mansfield, Ohio—Distribution of the Westinghouse refrigerator to all parts of the United States east of Kansas City will be instituted beginning at once, according to an announcement by Carl D. Taylor, manager of the refrigeration Department of the Westinghouse Electric & Manufacturing Company. An extensive nation-wide advertising and sales campaign is planned to accompany the invasion of new territory.

The 1931 advertising campaign itself will bring to the refrigeration field a new motif. Westinghouse has retained Rockwell Kent, one of the country's best known artists, to illustrate the national magazine advertising.

Westinghouse will continue to increase its advertising in daily newspapers and on billboards and in addition will carry on radio advertising. This comprehensive campaign will be backed by an augmented sales force which has been quietly organized in Mansfield during the last few months. An extensive sales educational campaign also will be begun. Westinghouse will continue its plan of having special dealers, and in addition, will make its appearance in the central station field.

Enters Two Big Cities

This expansion will see the first entry of the Westinghouse refrigerator into the metropolitan areas of New York and Chicago. The refrigerator at present is sold in a fairly concentrated area in the east, extending as far south as Kentucky and Tennessee and as far west as Ohio and Michigan. This leaves a vast territory yet to be entered and one towards which the advertising and sales campaign will bend its efforts. The same campaign will be directed toward the territory now covered.

The Saturday Evening Post has been selected to carry a series of monthly advertisements consisting of double page spreads in four colors. National advertisements will also be placed in several other magazines yet under consideration, including the women's and general magazine fields. The first of these advertisements will appear early in January.

The keynote of the advertising campaign is expressed in the phrase, "First Completely Balanced Refrigerator." The campaign will stress the fact that the Westinghouse refrigerator does not feature some one part while minimizing others. It will also use as a background Westinghouse's record of achievements in the electrical field.

The Westinghouse refrigerator will make its radio debut during a nationally broadcast program December 2, and a second nation-wide broadcast will be made December 16. These two programs will be first in a new series of Westinghouse Pioneer broadcasts which will be interspersed with the well-known Salutes.

During the remainder of 1930 the refrigerator is to be the exclusive feature in a series of Sunday night programs to be broadcast by Westinghouse station KDKA, Pittsburgh, and over stations WBZ and WBZA in Springfield and Boston, Mass. The programs will follow similar forms but will be presented separately by the program departments of KDKA and of WBZ-WBZA.

The many benefits of "cold cooking" will be brought out during the programs from KDKA and WBZ-WBZA, and the listeners will be invited to send to the manufacturer or to the station for one of the recipe booklets telling how to use the Westinghouse refrigerator in preparing frozen delicacies.

HOLBROOK, MERRILL SALES OVER \$3,000,000 MARK

Seattle, Wash.—Conferring with representatives of the Seattle office of the Murray Holbrook Company, in the Terminal Sales Building, L. W. Ward, general manager of Holbrook, Merrill and Stetson of Los Angeles, announced that over \$3,000,000 worth of business has been obtained in the past year by his company. Sales in the Seattle district are increasing, with a number of important installations reported. Following his visit to Seattle, Mr. Ward left for Vancouver, B. C.

Mr. Ward anticipates increased activity along the Pacific Coast during the coming year. He is looking forward to sharp gains in sales for both domestic and commercial refrigeration.



Two Distinguished Dairymen, C. R. Lindback and E. A. Amacker, enjoy Frigidaire's Homely Hospitality.

FRIGIDAIRE SCORES WITH OLD FASHIONED SETTING

Dayton, Ohio—A new policy in the preparation of refrigerator exhibits has been put to the test by the Frigidaire Corporation, and after a careful study of the results obtained those in charge feel that they now have a plan which can be depended upon to produce the sort of interest which every exhibit should attract. In the early days of Frigidaire, when electric refrigeration was a luxury, the Frigidaire exhibits at N. E. L. A. conventions and other shows of like character, quite properly reflected the luxuriosness of the product. They shone and glittered like the corridors of a fairy palace, and invariably evoked a liberal output of "Ohs" and "Ahs" from the mouths of visitors and passersby.

As time went on it became evident that this pageantry of splendor was losing some of its force. The enthusiastic admiration was still on tap, but the people whom Frigidaire was most anxious to attract seemed to feel that the refrigerators in their glamorous settings were museum pieces that mustn't be touched.

At the recent Dairy Industries Exposition in Cleveland, Frigidaire tried its new plan. It went right back to first principles and instead of festooning its space with tinsel, set up an old-fashioned spring house, flanked on both sides by an old rail fence. Pumpkins and corn, and a paper cow or two completed the illusion, although the paper cows were not quite so convincing as the yellow pumpkins and tall corn shocks.

The plan worked even better than anyone anticipated. The Frigidaire exhibit at the stage end of the great auditorium was the talk of the Exposition. Visitors wandered in, sat on the old fence, posed for their photographs, and gave every evidence of feeling very much at home. That settled it.

Where Selling Is An Art

REFRIGERATION dealers who are inclined to grow pessimistic in these days of depression with winter coming on, might well consider the case of J. L. Rousseau who sells Frigidaire in Trois Rivieres, Quebec. Mons. Rousseau, who is a faithful reader of the News, sends in a printed folder which he distributes in his territory and which contains the names of about 200 satisfied users of Frigidaire, all of whom have bought their refrigerators within the last three years. Part of his letter reads as follows:

"In Canada our prices have to be increased by the duty, there is less wealthy people, and we have colder temperature; so just think of the work we have to put behind the work to get them in."

NORGE OPENS NEW YORK BRANCH OFFICE

Detroit, Mich.—The opening of a New York branch on December 1st is announced by Howard E. Blood, president of the Norge Corporation.

The offices, at 331 Madison Avenue, will be in charge of three New Yorkers: M. G. O'Hara, formerly with the United States Rubber Company in charge of branch operations, has been appointed branch manager; H. K. Levy, until recently with Kelvinator in New York and Chicago, has become assistant branch manager; F. J. Hughes, previously associated with Servel and Kelvinator; is to have charge of apartment house sales. The New York branch of the Norge Corporation will be a wholesale operation, covering the metropolitan area, eastern New York State, northern New Jersey and western Connecticut.

PROFIT INCREASE SHOWN BY UNIVERSAL COOLER

Detroit, Mich.—Marked improvement in business and an increase of twenty-five per cent in units shipped this year over last year were reported to stockholders at the annual meeting of the Universal Cooler Corporation, Detroit, Wednesday, November 26th.

G. M. Johnston, president, in his annual report, stated the net profits for the year ending September 30, showed an increase of 6.64% over the preceding year, and that the ratio of current assets to current liabilities had increased to over 8 to 1, as compared with 4 to 1 in the previous year.

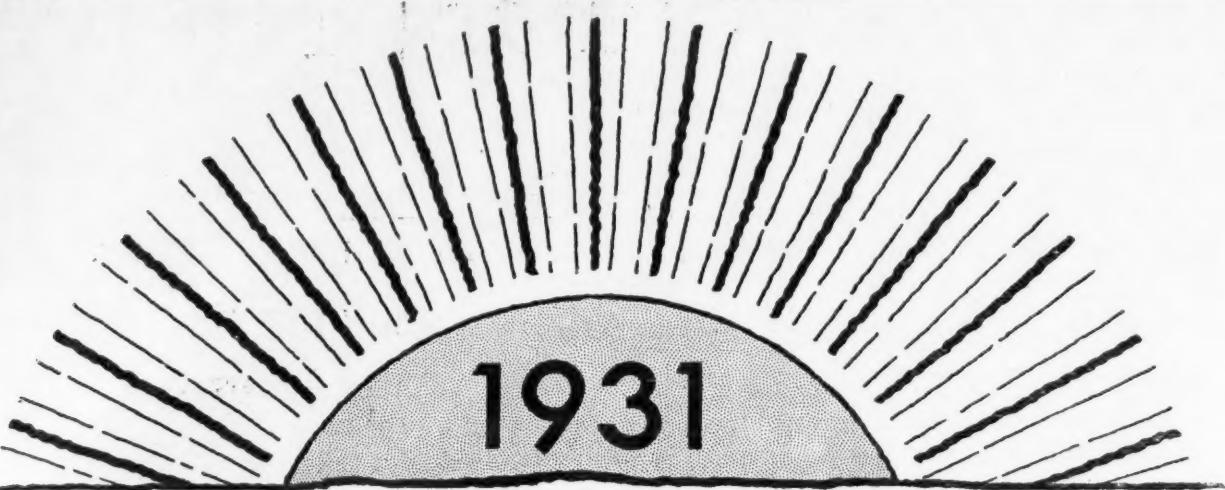
He also stated that shipments for the first two months of the current quarter had increased 300% over the same period last year.

According to officials, the company's position is strong and, with the recent introduction to distributors of the new 1931 household cabinets, the outlook for the new year is extremely favorable.

The following directors were elected for the ensuing year: Ford Ballantine, John B. Ford, Jr., E. B. Henry, Charles H. Hodges, Jr., John Huettman, G. M. Johnston, James L. Nelson, A. H. Saver, John W. Taylor.

E. L. BENNETT HEADS ICE ASSOCIATION

Milwaukee, Wis.—E. L. Bennett of Boston, Mass., was elected president of the National Association of Ice Industries at its annual convention here, November 20th. Other officers are Lee R. Glinton of Sioux Falls, S. D., 1st vice president; J. B. Mahoney of Charleston, S. C., 2nd vice president; L. C. Smith of Chicago, secretary and W. K. Martin of Crawfordsville, Ind., treasurer. H. D. Norvell of Cleveland is honorary president.



STILL GREATER OPPORTUNITIES FOR COPELAND DEALERS

Copeland occupies a unique position in the electric refrigeration industry.

Copeland is not the largest manufacturer of ice machines—nor is it the smallest. But it is one of the most progressive, and one of the most respected.

Copeland's policy of development has been sound and consistent. Each year has seen the Copeland product improved and refined. Each year has seen the Copeland distributor and dealer organization enlarged and strengthened. Each year has seen new money making opportunities for all Copeland outlets—old and new.

Copeland will wind up 1930 with a gratifying increase in business over previous years. Copeland looks forward to 1931 with a well-founded spirit of optimism. For the new Copeland products, the Copeland sales plan and the Copeland advertising program have all been conceived with one definite end in view—the greatly increased sales of Copeland Electric Refrigerators throughout the entire country.

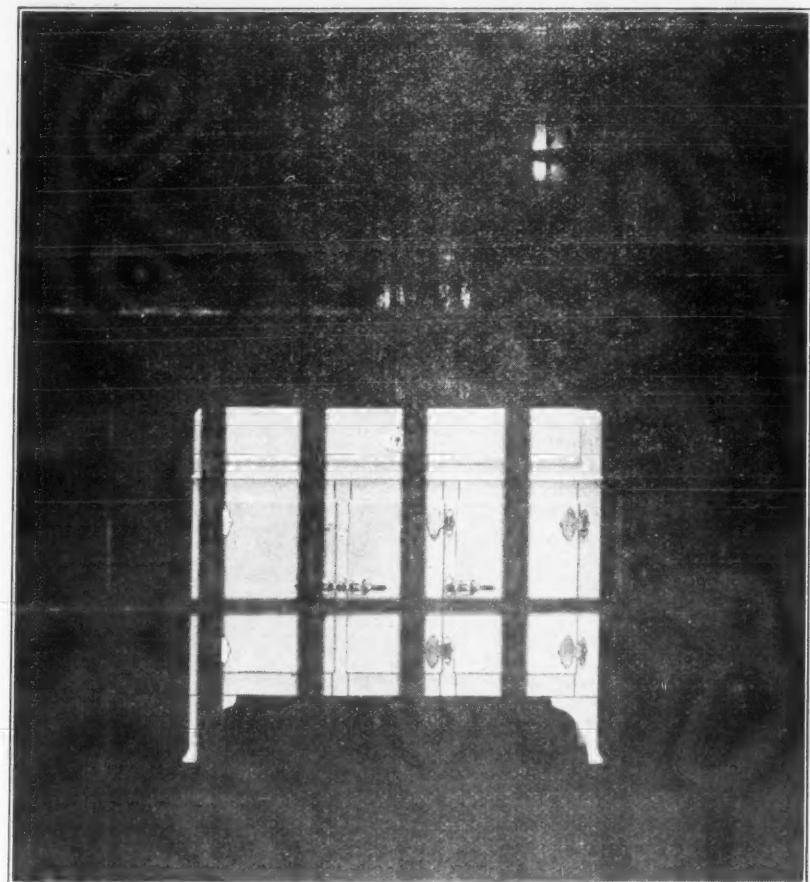
Copeland knows its refrigeration from A to Z—from design to retail selling. And Copeland knows how to make distributors and dealers happy and prosperous in the electric refrigeration business.

Take advantage of the Copeland opportunities for 1931. Write to Copeland today and get the facts.

COPELAND SALES COMPANY
332 Cass Avenue, Mount Clemens, Mich.

COPELAND
DEPENDABLE • ELECTRIC • REFRIGERATION

Imprisoned For Cause



THE Westinghouse refrigerator is behind the bars of Nashville's (Tenn.) county jail! Its reason for being there, however, is creditable to itself; its mission being uplift.

Recently a "bunch of the boys were whooping it up" in a sales meeting at the Tafel-Williams, Inc., sales room in Nashville, when in walked the county sheriff, his chief deputy and the county engineer. Panic stricken, the salesmen

hurriedly made for the nearest exits, when the sheriff relieved their minds by stating that he was on the lookout for a refrigerator.

There was a concerted rush to his side—one among them reached him first—and to him goes the honor of installing a WL170 Westinghouse refrigerator in the Nashville county jail. It will be used to keep food that is served to officers and jurymen.

Majestic Adds to Baltimore Outlets

Baltimore, Md.—A number of stores which heretofore did not carry electric refrigerators have taken on the Majestic refrigerator, product of the Majestic Utilities Corporation, recently organized subsidiary of the Grigsby-Grunow Co., of Chicago.

Dealerships appointed in Baltimore, Md., include Radio Mart, Inc., 112 North Liberty St.; Shevitz Piano Co., 746 Washington Blvd.; Shofer's, Inc., 828 South Charles St.; A. Sindler & Son, 1613 Eastern Ave.; Reisinger-Siehler Co., 612 Washington Blvd.; Little Potts, 2112 East Monument St.; La Porte & Chalk, Catonsville, Md.; Walbrook Majestic Store, 3128 West North Ave.; Pimlico Radio and Music Store, 5206 Park Heights Ave.; Frank J. Pelz, 2122 Ashland Ave.; Oriole Department Store, Baltimore and Poppleton Sts.; North Radio Sales, 627 West North

Ave.; Neistadt Piano Company, 730 East Baltimore St.; Mazer Piano Co., 421 S. Broadway; W. T. Littlepage, Jr., Baltimore and Calhoun Sts.; Levenson & Klein, Fayette and Washington Sts.; Kobsa Music Co., 2039 West North Ave.; Johnson Brothers, 1811 North Charles St.; C. W. Hollingsworth, 213 E. Mt. Royal Ave.; M. Budacez & Sons, 1744 Eastern Ave.; Blum's, Inc., 305 North Gay St., and also a branch store at 417 N. Howard St.; Besche Brothers, 1041 Light St.; Berlin & Lewis, 1317 W. Baltimore St.; Isaac Benesch & Sons, 549 N. Gay St.; Arbutus Variety Store, 3238 Frederick Ave.; Wilson Electric Co., Towson, Md.; G. B. Caltrider, Reisterstown, Md.; T. R. Caltrider, Pikesville, Md.; Essex Department Store, Essex, Md.; Fradkin Bros., Sparrows Point, Md., and Gusdorff & Joseph, 400 N. Howard St., Baltimore.

Gas Companies Promote Refrigeration

Brooklyn, N. Y.—"Nearly twice as many gas companies are actively selling gas refrigeration now as compared to a year ago" was the statement made by the committee on refrigeration for the American Gas Association. According to R. L. Hallock of the Brooklyn Union Gas Company, Brooklyn, chairman of the committee, gas refrigeration has progressed rapidly during the present year. Mr. Hallock's report further states:

"This year the committee has obtained its information through direct contact by its members with those companies

who have been most active in the promotion of gas refrigeration. Twenty gas companies were selected and contacted and this report is based upon their experiences. The combined efforts of these companies showed a 500% sales increase in 1928 over 1927 and over a 160% increase in 1929 over the preceding year. Sales so far this year were reported far ahead of 1929 regardless of the business depression.

"In more than one company the refrigerator sales in dollar volume have exceeded all other domestic appliances combined."

Absopure

ELECTRIC REFRIGERATOR

12 HOUSEHOLD MODELS

All porcelain and porcelain-lined. From 4.3 to 32 cu. feet capacity.

COMPLETE COMMERCIAL LINE For Meat Markets, Grocers, Florists, Apartment House Multiple.

THE Absopure franchise is an asset whose value will increase as refrigeration comes into its own. Some territory is still open. For details—write or wire the factory.

Absopure
Refrigeration Corporation

1560 Theodore Street
DETROIT MICHIGAN

FLINTLOCK
CONDENSERS

Full Capacity

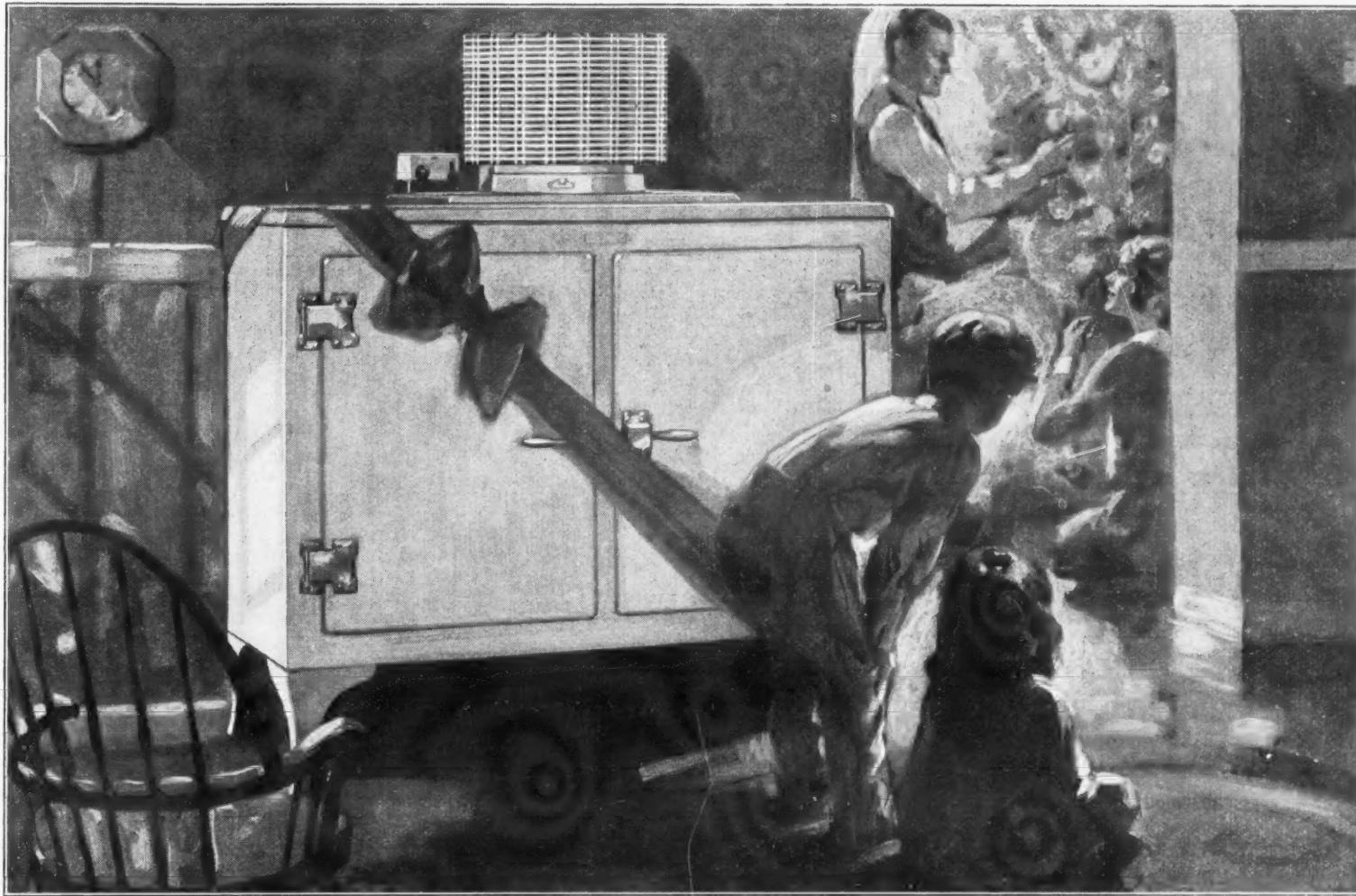


FIN AND TUBE SAME
SOLID PIECE OF
MATERIAL

FLINTLOCK
CORPORATION

4461 W. Jefferson Ave.
DETROIT, MICH.

A Christmas Sales Idea



give her a General Electric Refrigerator

Men—hundreds and hundreds of them—are scratching their heads wondering what to get their wives for Christmas.

And here you are with the answer—a General Electric Refrigerator.

It's an answer that many a man would be glad indeed to know—glad to act on, too.

But you ought to tell him! Remind everybody with your advertising and in your selling that a General Electric Refrigerator is just about the most appropriate and acceptable Christmas present a fellow can give.

You can't beat it for a "hard times" present because it repays all it costs and more in the food it saves every day from spoilage.

And for the fellow who has but little cash—well, very little cash is necessary to put a General Electric to work on its job of cutting down food costs.

Give a General Electric Refrigerator for Christmas! There's a sales winning idea. Many dealers tried it and proved it last year. More will profit by it this year.

A tremendous nation-wide advertising campaign is promoting this idea right in your own community—cultivating prospects for you. National magazine advertisements and outdoor posters in alluring color. Impressive advertisements in newspapers and radio broadcasts the country over. Irresistibly beautiful direct-mail pieces. All of these are preparing a rich market for a golden harvest. Tie-in and cash-in with this proven idea.

GENERAL  ELECTRIC
ALL-STEEL REFRIGERATOR

ELECTRIC REFRIGERATION DEPT., GENERAL ELECTRIC CO., HANNA BLDG., 1400 EUCLID AVE., CLEVELAND, O.

**ENDURING-
RUGGED-
SILENT**

Built with the precision and care of a fine watch, the Leland Motor is enduring, rugged and dependable. It is so quiet that, standing three feet away, you cannot detect a sound. Investigate the exclusive features that make the Leland the best motor yet developed for electric refrigeration. Available in various fractional sizes.

The Leland Electric Co.
Dayton, Ohio, U.S.A.

GROWTH OF BIG BUSINESS INEVITABLE, SAYS INSULL

Chicago, Ill.—“American business is big business, whether or not it would or should be, and the electrical business is big only as one of many inevitably so,” Samuel Insull, Jr., told 1,300 members and guests of the Chicago Electric Association at its annual banquet November 20 in the Palmer House.

“Business is big in the United States not because it wants to be big,” Mr. Insull said, “but because in a nation of big things it must be big. Likewise, public utilities are big only because other American businesses have attained tremendous proportions. And the utilities, perhaps, are not so big as we have led ourselves to think.”

Public utilities have talked too much about their size in the past, attempting to convince investors of their magnitude, he suggested. They have overconvinced themselves as well as the outside world.

“In spite of its size, the utility business is fundamentally local,” continued Mr. Insull. “Unlike many large corporations, the utilities must be interested in town affairs, for their income

develops, not in the far corners, but in their own communities. Utilities are the most local of all industries.”

The local phase of this industry, the speaker observed, possibly has not been attracting as much attention as it should. The fundamental technical problems of the industry have changed little since Edison first defined them. Questions of public policy insofar as the internal aspects of the business are concerned, have also been largely solved. The big problems now confronting the utilities are inter-community questions.

“Service,” maintained Mr. Insull, “is the basis of all income. Whether he will or no, the utilities man must watch his service, for his income depends upon it.”

The United States has a muddled state of mind on the question of corporation size, thinks Mr. Insull. The public should rejoice with great industries because they are realizing the full possibilities of national development. Nevertheless, he points out that:

“If the public criticizes an industry, whether or not the charge is just, we must consider that the charge is there, and that the public has that state of mind.”

“We cannot say,” he concluded, “that the American public suspects big business; but we can say that the public looks at it in a spirit of friendly watchfulness to see if it will produce some justification for its existence other than inherent size.”

Although the names of those present at the “speakers’ table” might have comprised a selected list from a “Who’s Who?” of celebrities, Samuel Insull, Jr., was the only speaker of the evening. Paul Marshall, Chicago Civic Opera baritone, sang three numbers immediately preceding Mr. Insull’s address.

A colorful and effective allegorical interlude was presented by a group of costumed “pirates,” who opened a “treasure chest” for the edification of those assembled. At the appointed moment, the lights in the ballroom were turned out and spotlights illuminated two representations of a pirates’ chest, one at each end of the narrow balcony which encircled the oval ballroom.

Hovering over each chest was an attractive young girl, attended by a number of counterfeit Nubian slaves. After a fanfare of trumpets, the girls waved light-tipped wands over the chests, and the latter were opened. They contained, not pieces of eight, but book-like leaves on which were inscribed messages to the assembled members and guests, directing them toward greater profits in the year 1931.

On the main floor a man costumed as Benjamin Franklin, read these messages, plus additional material, while the audience looked on. As soon as each message had been read entirely, the girls turned over new leaves to reveal the next legend. The messages were:

“Seek your treasure first in the inadequately wired homes of the Chicago area. The typical Chicago home is provided with only fourteen electric outlets. It should contain at least forty.”

“Seek your treasure in the sale of needed electric appliances to the homes in the Chicago area. In only one home out of ten is there an electric fan, an electric heater, or an electric refrigerator.”

“Seek your treasure in the support of the unification of Chicago’s local transportation system. The \$200,000,000 that would be spent by surface and elevated lines in extensions and improvements over the next ten years should stimulate building estimated at ten times that amount.”

“Seek your treasure in the outskirts of the Chicagoland area, where the 25,000 farms of Chicagoland await Aladdin’s transforming touch. Less than one out of four is wired for electricity, and even here electric service is on a basis of a makeshift for adequacy.”

At the speaker’s table of this banquet, the following prominent persons were seated, from left to right:

Leo E. Mayer, president, Association of Electragists, International; Howard L. Cheney, president, Chicago Chapter, American Institute of Architects; F. O. Hale, president, Illinois Bell Telephone Co.; F. A. Merrick, president, Westinghouse Electric & Manufacturing Co.; W. A. Jones, president, National Electric Light Association. George B. Cortelyou, chairman, Joint Committee of National Utility Association; Gutzon Borglum; Walter Dill Scott, president, Northwestern University; Edward N. Hurley, Sr., chairman of the board, Hurley Machine Co.; E. M. Herr, vice-chairman, Westinghouse Electric & Manufacturing Co.; W. L. Ross, president, New York, Chicago & St. Louis Railroad; Fred W. Sargent, president, Chicago & North Western Railway Co.

James R. Leavell, president, Continental Illinois Bank & Trust Co.; B. E. Sunny, chairman of the board, Chicago Great Western Railroad; Samuel Insull, Jr., president, Midland United Co.; George A. Hughes, president, Edison General Electric Appliance Co.; Samuel Insull, chairman, Commonwealth Edison Co.; Sidney Z. Mitchell, chairman, Electric Bond & Share Co.

Martin J. Insull, president, Middle West Utilities Co.; Gerard Swope, president, General Electric Co.; Charles L. Edgar, acting president, Society for Electrical Development, Inc.; Robert Maynard Hutchins, president, University of Chicago; Preston S. Arkwright, presi-

dent, Association of Edison Illuminating Companies; General Otto H. Falk, president, Allis-Chalmers Manufacturing Co.; Solomon A. Smith, president, The Northern Trust Co.; John J. O’Brien, president, Byllesby Engineering & Management Corp.; Howard W. Fenton, president, Harris Trust & Savings Bank; Edward J. Doyle, president, Commonwealth Edison Co.; Clement Studebaker, Jr., president, North American Light & Power Co.; Robert Isham Randolph, president, Chicago Association of Commerce; John A. Lynch, chairman of Executive Committee, National Bank of the Republic of Chicago.

REFRIGERATION PROGRESS SALUTED IN BROADCAST

Pittsburgh, Pa.—The big part that the refrigeration industry is playing in the modern business world was clearly yet briefly outlined by Gardner Poole, president of the American Institute of Refrigeration, in a broadcast over a network of 36 radio stations on Tuesday, November 25th. The occasion was the Westinghouse Salute to the refrigeration industry. Mr. Poole’s address is printed in full below.

WITHIN the time of the present generation practically the entire industry of ice and refrigeration has grown from a crude or experimental stage to its present magnitude, serving as an outlet for the best efforts and endeavors of hundreds of thousands of people, contributing to the advancement of the industrial arts, conserving millions of dollars’ worth of food products annually, equalizing extreme prices for seasonal products, increasing the supply of perishable foodstuffs by extending the markets, thus stimulating production, and furnishing our tables with fruit and other delicacies that the previous generation considered luxuries, or were unable to secure. It has been a leading factor in making possible the fullness of present day life.

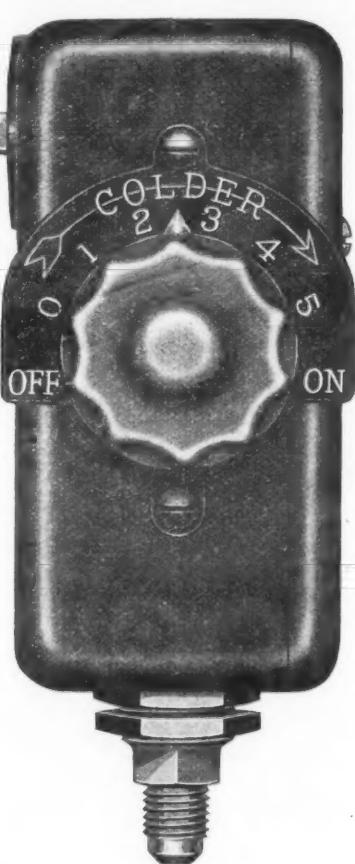
The development of industrial refrigeration in the United States has expanded to a point far beyond the conception of the early pioneers, and the refrigerating machine may well rank with the steam engine, the internal-combustion engine, and with electricity as one of the principal agencies in the development of human progress and prosperity.

I wish that time permitted a review of its progress and application, but some idea of its magnitude and diversity is indicated by recent statistics listing 220 industries and businesses in this country using refrigeration. I can only refer to a few high spots. The ice industry, with an annual production of sixty million tons, and the cold storage industry, where refrigeration is a prime factor in connection with the preservation of our perishable food supplies, are the largest users. In the packing house industry, in the textile industry, in the processing of oils, manufacture of candy, manufacture of films in the moving picture industry, in the manufacture of ice cream and in the dairy industries, refrigeration is now almost indispensable. A very important and more recent development is in connection with mechanical refrigeration for the home, which dates back only to 1914, expanding to a total sales volume of more than 630,000 units in the year 1929. Also the establishment and development of air conditioning is a science capable of almost unlimited contribution to industrial development and to the health and comfort of human beings.

The most recent development in refrigeration is known as “quick-freezing.” It is a method of freezing fish, meats, and many other perishable products by efficient application of low temperatures in producing only microscopic crystals, thus preventing structural breakdown and preserving all of the flavor and wholesomeness of these products without appreciable loss of weight or change in appearance, thus permitting packaging and sealing in convenient form for distribution to the consumer.

While I have been talking mostly about the development of the industry in this country, the broader phases of its world-wide development must not be overlooked. This may be emphasized by the fact that a World Congress of Refrigeration is held every fourth year, with more than fifty nations of the world participating, represented by official delegates appointed by their respective governments. The American Institute of Refrigeration has represented the refrigerating industries of this country in these meetings by nomination of the State Department in Washington. The last Congress was held at Rome, Italy, in 1928; the next will meet in Buenos Aires, Argentine Republic, in 1932.

In closing, may I in turn salute Westinghouse for its conspicuous contributions in the development of this refrigeration industry, and express our grateful appreciation for the honor of participating in this series of instructive programs. May I also pay a tribute to those men of science and industry whose genius and ability have made the words “ice and refrigeration” in relation to their application synonymous with the words “health” and “comfort.”



The SIMPLICITY of the NEW PENN TYPE 'J' UNIT CONTROL Assures ACCURACY and DEPENDABILITY

THE new Penn Type 'J' Unit Control for Domestic Refrigerators has set a new standard for simplicity. Instead of many switches, each performing separate functions, there is but one highly perfected instrument. It offers all the desirable features of other controls, plus several found only in Penn Type 'J'.

- 1. One Dial Control
- 2. Temperature Selector
- 3. Thermal Overload Protector
- 4. Start and Stop for Defrosting
- 5. Range and Differential Adjuster
- 6. Simplicity—Low Installation Cost

Penn Type 'J' as standard equipment on your own unit, will not only make for simplicity, but also reduce installation costs, quicken sales, and eliminate expensive service calls. Write immediately for complete information and specifications. To reliable manufacturers, we offer a standard control for test purposes.

PENN ELECTRIC SWITCH CO.
DES MOINES, IOWA

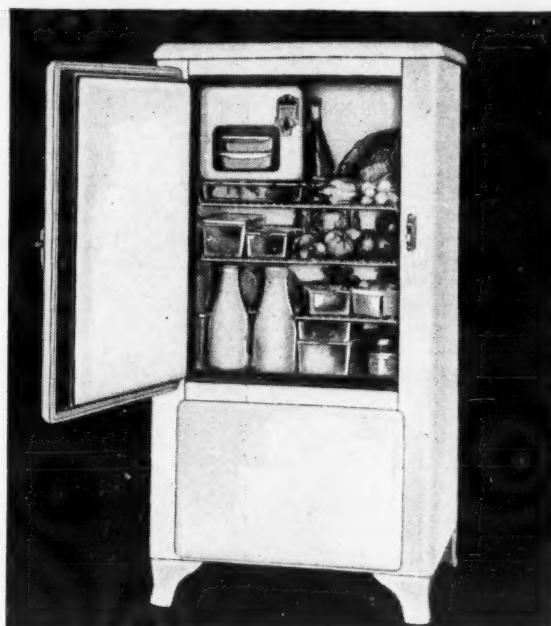
With Offices in the Following Cities

New York
Boston
Philadelphia

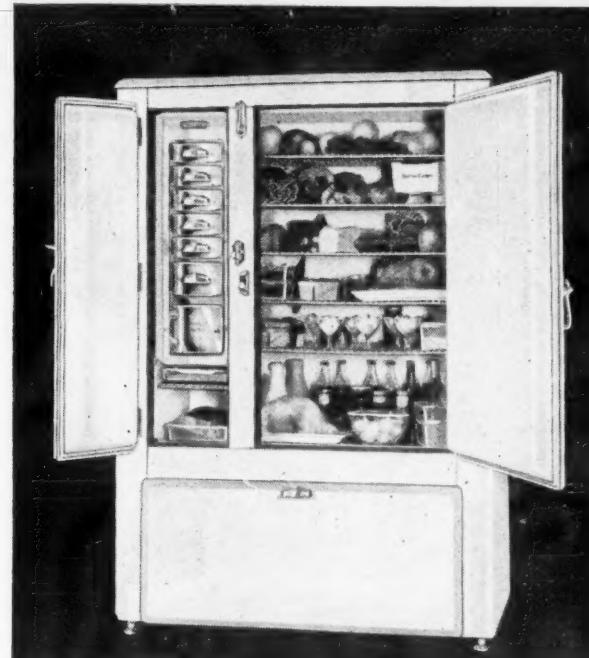
Cleveland
Cincinnati
Chicago

San Francisco
Los Angeles
Seattle

London, England
Barcelona, Spain
Osaka, Japan



The Kelvinator Yukon Model—\$159.50 f. o. b. factory. Available also in 7 cu. ft. size.

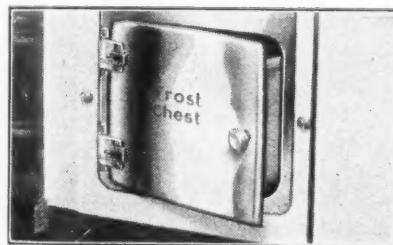


The Kelvinator De Luxe Model—\$360.00 to \$755.00 f. o. b. factory. Available in 6-8-11-14-22 cu. ft. sizes.

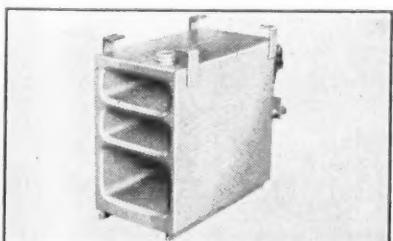


The Kelvinator Standard Model \$210.00 f. o. b. factory, upwards. Available in 4-5-7 cu. ft. sizes.

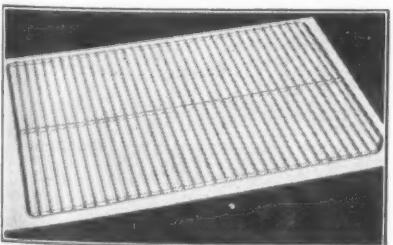
You can make MORE MONEY with the KELVINATOR Line in 1931



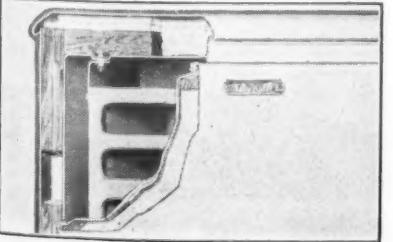
The Frost Chest, with its below freezing temperature, keeps fish, game, and other delicacies fresh for days.



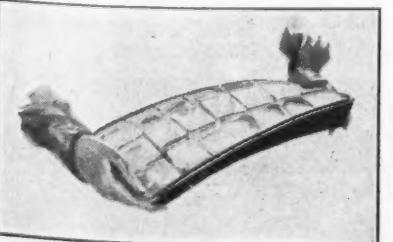
The Kold-Keeper—a famous Kelvinator feature that acts as a reservoir of cold.



Rigid, strong, electric welded parallel bar shelves are a feature in all Kelvinator Cabinets.



Kelvatex insulation, the product of years of research and experimentation, is used in all Kelvinator Cabinets.



With the Flexo trays a slight pressure of the finger releases one or as many ice cubes as you desire.

You are in the refrigeration business for one reason only . . . and that reason is *to make money*. This being the case, isn't it good business and the safest policy to handle the merchandise that offers you the greatest opportunity for both volume and profits?

Ever since the first Kelvinator 17 years ago, Kelvinator dealers have had the most salable merchandise in the Industry. This engineering leadership has been a distinct sales advantage. Kelvinator dealers know they can depend on Kelvinator Engineers to be *first* with major improvements. Each year has brought noteworthy developments—sales features that *sell the merchandise*—engineering features that *keep it sold*.

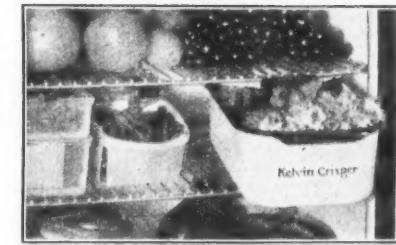
The 1931 Line of Domestic and Commercial equipment is unquestionably Kelvinator's greatest Line. With the new low-price Yukon and the Standard and De Luxe Models, you have complete market coverage, three different Lines—and each the quality leader in its respective price class. Every one of the 18 million prospects for electric refrigeration is a Kelvinator prospect.

Behind this great Line is the largest advertising and sales promotion program in Kelvinator's history. From all indications, sales records are again going to reach new high levels in 1931, surpassing the record-breaking gain of 31% in 1930 over the 1929 volume of domestic business.

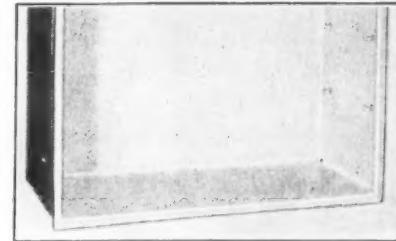
The Kelvinator Franchise is the best opportunity in the Industry for refrigeration dealers, radio dealers, and dealers in other lines who are looking for a permanent and profitable business investment.

Your request for information will be treated confidentially.

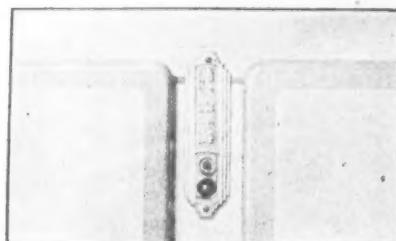
Kelvinator Corporation, 14245 Plymouth Road, Detroit, Michigan
Kelvinator of Canada, Limited, London, Ontario
Kelvinator Limited, London, England



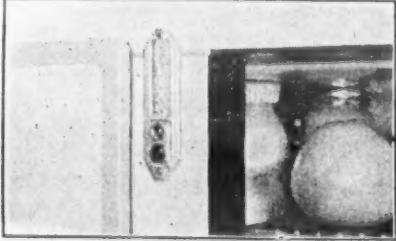
The new Kelvin Crisper, used for the storage and refreshing of vegetables, slides into a cover that is attached to the upper shelf.



Rounded corners on the porcelain interiors, making for easy cleaning, are a feature on all three Kelvinator Lines.



Kelvinator's exclusive French Gray Trim on De Luxe Models adds beauty and charm to the distinctive cabinets.



Another unique feature on the De Luxe Models is the electrically lighted interior. Switch, with ruby signal light, is located on the Kelvinator name-plate.

(168)

COUPON

Kelvinator Corporation,
Detroit, Michigan.

Gentlemen:

I am interested in the Kelvinator Franchise. Please send me complete details about the Profit-Possibilities of the 1931 Line.

Name _____

Street Address _____

City _____ State _____

World's Fastest Freezing Speed with automatic temperature control is the greatest sales feature ever introduced in electric refrigeration.

The super-fast freezing tray, which is equipped with the exclusive Iso-Thermic Tubes, is located above the double-depth ice cube tray.

Hardware of Butler Chrome, selected for its beauty of design by the American Federation of Arts for inclusion in its International Exhibit of Decorative Metalwork.

Size for size, the De Luxe Models have the greatest ice-making capacity of any electric refrigerators.

STARR FREEZE

Compressor and Cooling Units

1931 Models Now Ready

Model A Compressor, single cylinder. Smooth, quiet, efficient performance. For refrigeration up to 9 cubic feet capacity. Bore and stroke, 1.64 x 1.64; cubic inch capacity, 1470.

COOLING UNITS—Large Ice Capacity

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Write us your requirements.

THE STARR COMPANY

Established 1872

RICHMOND INDIANA



C. H. Stull

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Testing Service

for Domestic and Commercial Electrical Refrigeration

Testing and experimental laboratory service for Manufacturer, Distributor, Central Station. Test data exclusive property of client.

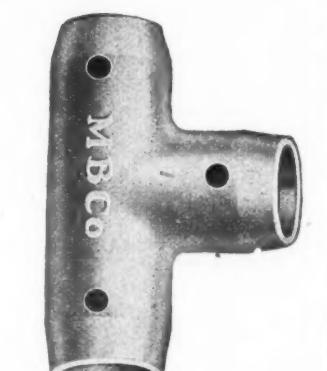
Electrical Testing Laboratories

8th St. & East End Ave
NEW YORK

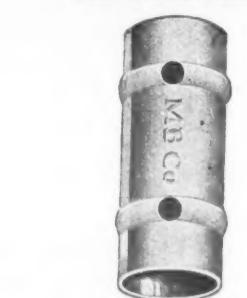


Be An EXPERT in ELECTRIC REFRIGERATION

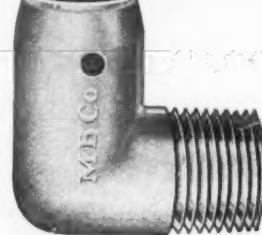
Learn at home new easy way. Oldest, largest home study electric refrigeration school offers thorough, practical training, endorsed by Servel, Kelvinator, Copeland, Zerozone, and other leading manufacturers. Wonderful paying advertising opportunity for service men, practical help to dealers, salesmen, manufacturers. Special proposition to firms who wish to train staffs. **FREE BOOK** explains everything. No obligation. Utilities Engineering Institute, Dept. 4120, 4403 Sheridan Road, Chicago, Ill.



STREAMLINE Tee, copper to copper to copper
Patent 1,770,852
Patent 1,776,502
Other Patents Pending



STREAMLINE Coupling, copper to copper
Patent 1,770,852
Patent 1,776,502
Other Patents Pending



STREAMLINE Elbow, copper to outside pipe thread
Patent 1,770,852
Patent 1,776,502
Other Patents Pending

BUSH

CONDENSERS

THE BUSH MFG. CO.
HARTFORD, CONN.

W. H. MARK HANNA
6-247 GENERAL MOTORS BLDG., DETROIT, MICH.

MUELLER BRASS CO.

PORT HURON, MICH.

THREE GENERATIONS OF BRASS MAKING

ANNOUNCING

Simplified



Refrigeration

with the
NewSERVEL
HERMETIC

The most important news in the history of electric refrigeration—an entirely new electric refrigerator that revolutionizes retail selling by eliminating the costly Service problem.

FORGET all you know about yesterday's electric refrigerators!

Here's a refrigerator so simplified in design that it sets an advanced standard of performance—a hermetically sealed, "package-job" that eliminates kitchen repairs, intricate adjustments, and replacement of parts.

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Write for our attractive Dealer Plan

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3 Models
under \$200

with these powerful
selling points

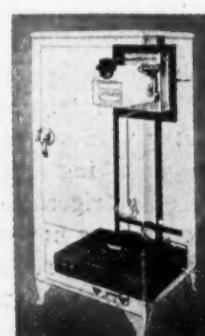
*A hermetically sealed unit
Fewer moving parts*

*No moving parts exposed
Freedom from kitchen repairs
Costs 1/3 less to operate
Quietest unit ever built
Handy control for fast
freezing*

*More, usable shelf space
Beautiful, graceful
Flat, usable top*

*Unconditional 2-
guarantee*

Watch for our Opening Announcement to the public—2 full pages in four colors in the December 20th Saturday Evening Post.



SERVEL SALES, INCORPORATED
Evansville, Indiana

STARR FREEZE Compressor and Cooling Units 1931 Models Now Ready

Model A Compressor, single cylinder. Smooth, quiet, efficient performance. For refrigeration up to 9 cubic feet capacity. Bore and stroke, 1.64 x 1.64; cubic inch capacity, 1470.

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Testing and experimental laboratory service for Manufacturer, Distributor, Central Station. Test data exclusive property of client.

ETL
Know by Test
Electrical Testing Laboratories
60th St. & East End Ave
NEW YORK

Be An EXPERT in ELECTRIC REFRIGERATION

Learn at home new easy way. Oldest, largest home study electric refrigeration school. Most thorough, practical training courses by Serial, Reheater, and Zeppelin and other leading manufacturers. Wonderful pay-raising opportunity for service men: practical training to dealers, salesmen, manufacturers. Special proposition to firms who wish to train staff. **FREE BOOK** explains everything. No obligation. Utilities Engineering Institute, Dept. 4120, 4403 Sheridan Road, Chicago, Ill.

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HARTFORD, CONN.

W. H. MARK HANNA
6-247 GENERAL MOTORS BLDG., DETROIT, MICH.

SEALED CONNECTIONS

Without Nuts or Flares!

The new Mueller STREAMLINE Refrigerator Fitting is a permanently tight connection for Electric Refrigeration work—a fitting actually STRONGER THAN THE TUBING WHICH IT CONNECTS—yet much lighter, simpler, more quickly completed and more economical than any previous type of refrigerator fitting.

The end of the tube is slipped into the fitting, the proper distance being made positive by a shoulder inside the fitting against which the tube rests. Solder wire is fed in through a conveniently located opening in the fitting by applying heat from the blow torch.

The solder is thoroughly distributed around the joint by CAPILLARY ATTRACTION and is promptly visible around the entire end of the fitting, conclusively indicating that the joint is complete. It is refrigerant, seepage and vibration-proof. The STREAMLINE Fitting represents a remarkable saving of time and labor, as well as giving absolute assurance that every connection is both perfect and permanent. No flaring is necessary, and there is no waste "endage." The fitting itself is lighter, meaning a considerable saving in weight. Inside diameter of the fitting is the same as that of the tubing—there are no uneven surfaces or obstructions. MATERIAL AND INSTALLATION COSTS ARE CUT APPROXIMATELY IN HALF.

Mueller STREAMLINE Refrigerator Fittings, with the exception of the couplings, are FORGED. The coupling is made of extruded seamless copper tube. Forgings being made in dies under tremendous pressure, have a dense, close-grained structure that makes seepage through the fitting itself, impossible.

Mueller STREAMLINE Electric Refrigeration Valves and Fittings can be made to suit your special requirements.

MUELLER BRASS CO.

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No moving parts exposed

Freedom from kitchen repairs

Costs 1/3 less to operate

Quietest unit ever built

*Handy control for fast
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More, usable shelf space

Beautiful, graceful cabinets

Flat, usable top

*Unconditional 2-year
guarantee*



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Saturday Evening Post.*

SERVEL SALES, INCORPORATED
Evansville, Indiana

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

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December 3, 1930

An Inevitable Trend

HOW far has the electric refrigerator gone along the path from the specialty field to that of over-the-counter merchandise? That is a question that many refrigeration executives would like to be able to answer just now. If there were any certain and sure answer, some sales plan would be revamped and numerous items might be cut from the sales budget.

In the long run the transition is inevitable. The more thorough a job is done in specialty selling, the greater the public knowledge of the product becomes and when the public decides it knows all about a product it can be persuaded to step right up to the counter and buy. For that reason the men who have so successfully marketed the electric refrigerator as a specialty are justified in taking pride in the fact that their specialty shows indications of changing its nature. If it does become a piece of over-the-counter merchandise in the near future, it will be because these specialty salesmen have done their job thoroughly.

There are numerous indications that the march is well under way. In the last few weeks, three manufacturers of ice refrigerators, selling their products through department stores and other like outlets, have announced that they are going to market electric refrigerators. Manufacturers of electric refrigerators, or at least their distributing organizations, are placing electric refrigerators in all sorts of unexpected places. In one Michigan city for example, two or three refrigerators occupy a prominent place in one of the leading drug stores. Big department stores display and sell a number of competing makes. Whenever a good, live merchant discloses himself in a town, he is pretty sure to get a chance to sell refrigerators if he wants to do so.

Marketing the electric refrigerator may become a new business before long. Those who are guiding the industry recognize this fact, and are taking steps to see that the product gets into the hands of every man who can sell it at a fair profit. The change, if it comes, will mean considerable shifting in men and methods, but it also will mean the sale of more refrigerators, and a broadening of an industry that has already made a remarkable record in a comparatively short period of time.

* * *

Working With the Architect

ESPECIALLY in apartment house design, the architect is taking an increasing interest in electric refrigeration. His client comes to him, asks for plans for a big apartment house and doesn't want too much space allotted to kitchens and kitchenettes. But somewhere in each kitchen or kitchenette there must be a mechanical refrigerator. It is an apartment house that is wanted, not a tenement.

That is where the architect becomes intensely interested in electric refrigeration. He has to keep that kitchen down to the smallest possible dimensions and he has to get that refrigerator in. Sometimes it is a pretty hard job, and many a refrigerator salesman has spent long and tedious hours proving to an architect that his particular refrigerator really fills the bill, even though it is an inch or two longer or wider than Mr. Architect would like it to be.

The rubber ice tray has proved its usefulness in connection with domestic refrigeration, but thus far the rubber refrigerator has not been developed. Until it is, the architect and the refrigerator salesman will have to work together closely, each with a willingness to compromise a bit when space and matter are at variance. The Buyer's Guide section of this issue of ELECTRIC REFRIGERATION NEWS provides a means of gaining that better understanding.

* * *

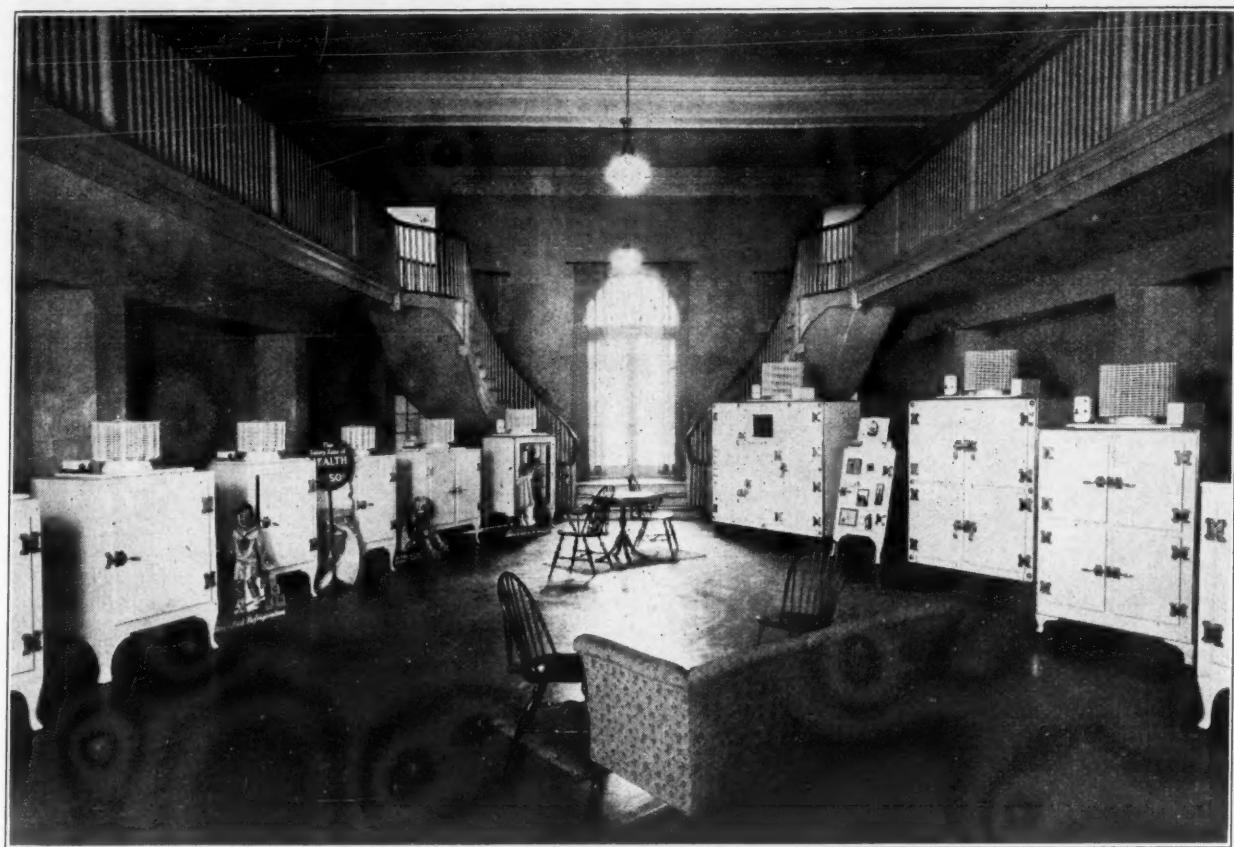
Refrigeration and Education

THE announcement that the University of Pittsburgh is going to offer an electric course in household refrigeration in the second semester of the current college year is good news. It is doubtful if there is any other industry comparable in size to the refrigeration industry that is so inadequately represented in college curricula.

Although millions of dollars are being spent in the production of household refrigerators and other small refrigerating units, the young man who wants to enter the industry with a good technical knowledge of the subject is out of luck. If he is taking a mechanical engineering course he will get a lesson or two on refrigeration in the midst of his course, but that's about all in the average university.

Pittsburgh's move is a recognition of the remarkable growth of the refrigeration industry. It is more than probable that other universities will follow this excellent example.

Refrigerators Tastefully Displayed



Harrisburg, Pa.—The opening of a new branch store at 208 E. King St., here, a short time ago, by N. K. Ovalle, Inc., distributor for General Electric refrigerators, was widely heralded, and many citizens were on hand to inspect the new quarters. Adequate floor space allows for an attractive display of models. Flanking the display quarters are

two large rooms, on the right is the manager's office, while on the left is a large room which will be fitted out as a model kitchen at some future time. The stairs at the rear of the store lead to the Sales Institute, located at the upper left.

The attractive French windows at the rear of the store enable one to view the

large garden with ivy almost completely covering the walls of the building. Directly back of the garden is a separate building for service and storage. At the extreme end of the property, there is the garage which houses the delivery and service trucks, with adequate space for salesmen's cars. The Ovalle organization takes great pride in the new quarters.

THE EXPANSION VALVE

By GEORGE F. TAUBENECK

Common sensical aphorisms don't always work. Consider, for instance, the cracker-barrel maxim that successful men's sons are much more effective at a country club than in an office.

In refutation, one could point out men like John D. Rockefeller, Jr., Edsel Ford, the younger du Ponts and Morgans, the Lafollettes of Wisconsin, and several generations of the Adams family. But one needn't go that far afield.

The Mills Novelty Co. of Chicago, which has recently announced a new line of refrigerated commercial and ice cream cabinets, is manned exclusively by four members of the Mills family.

F. L. Mills is president of this concern, Ralph J. Mills is vice-president, Herbert S. Mills is the treasurer, and Hayden R. Mills completes the executive staff, as treasurer.

For 41 years this family has been directing the manufacture and sale of vending machines, phonographs, radios, mints, and whatnot.

Up in Minnesota's Twin Cities an unusually interesting second-generation situation exists.

It all began with the senior Mr. Gebhart C. Bohn. This energetic gentleman built up the Bohn Refrigerator Co. in St. Paul. Today another Gebhart C. Bohn is successfully pushing its products into almost every field of domestic and transit refrigeration.

Another monument, as a Senator would say, to the elder Mr. Bohn's energy and initiative is the Flaxlinum Corp. in Minneapolis, which makes insulation for refrigerated railroad cars, Bohn and G. E. refrigerators, homes, etc.

Back in the days when bicycles and mustache cups were still fashionable, a fellow named Lappin was making Flaxlinum in a back-country Minnesota hamlet.

When Mr. Bohn discovered this rural inventor, the latter had no outlet at all for his flax-straw product. He had some faint notion that it might be used for rugs, but thus far had simply been fashioning Flaxlinum for fun.

Back to St. Paul came Mr. Bohn with the rights to make Flaxlinum, and plunged into the business with characteristic enthusiasm.

He finally became so wrapped up in

his insulation that he sold out his interests in Bohn refrigerators to his son, the second Gebhart C., and devoted all his time to the development of new markets for Flaxlinum.

Shortly after his death, the Peavey interests of Indianapolis purchased the concern from the estate.

St. Paul boasts another family which knows how to make refrigerators. The Seeger Refrigerator Co. is strictly a family proposition.

Founded by John Seeger, who is still its president, this company is now managed largely by his sons, Walter (vice-president, in charge of sales) and G. R. Seeger (secretary and treasurer, in charge of production).

Jack Leonard, the sales manager, has been with the Seeger Company since its inception. He is an old friend of the family, and a schoolmate of the second generation Seegers.

Young John Holl, a nephew, is now rising in the ranks of the company, learning the business from every angle.

Oddly enough, Mr. John Seeger was a star Bohn salesman at one time. Mr. Seeger's specialty was selling quality woodwork to haut ton hotels, apartment buildings, and the like.

Some of New York's most famous hosteries were decorated with Bohn woodwork sold by Mr. Seeger.

Messrs. Walter Seeger and Jack Leonard, the Seeger sales chiefs, impress one from the start as having that invaluable, intangible, ineffable, inescapable something known as "sales instinct."

The former is aggressive, direct, and undeniably keen. Sincere, straightforward and informed, he knows exactly what he is talking about and tells it simply and convincingly.

Did you ever repeat a funny story you heard somebody tell, and have it fall as flat as a punctured tire on a two-ton truck?

"It was more the way he said it, than what he said," you add lamely.

Jack Leonard is one of those lucky-star chaps who can take any insignificant little anecdote and transform it into an enthralling yarn. He tells things well, and the more you hear him, the better you like him.

What's more, he claims that he

thrives on Pullman slumbers and hotel life. Born salesman, eh wot?

Almost an octogenarian is John Seeger. Yet he is as young and spry as many men 30 years less far along. He keeps young, he says, by having many interests.

In addition to his advisory and supervisory capacities with the Seeger Refrigerator Co., he runs an insurance company, is interested in real estate and construction, and has more civic responsibilities than a new dealer has hopes.

While talking with Walter Seeger not long ago we watched his father do one of his morning tasks at the Seeger factory—opening the mail. It was a practiced eye and a trained hand which accomplished this task. By instinct he seemed to know whether or not the letter contained a check or an order.

Many pieces of mail—particularly those that were obviously circulars—he cast into a capacious wastebasket. Some letters he glanced at and marked to the attention of some other member of the concern. Finally he came to a current copy of ELECTRIC REFRIGERATION NEWS.

Gentlemen, we hope you'll pardon this little bit of bragging, on the grounds of complete and accurate reporting. The president of the Seeger Refrigerator Co. read that copy of the News all the way through—page by page, column by column, story by story. Having completed that task, he straightened the tie underneath his wing collar, donned hat and coat, and left the building.

In another kolumn in this issue we made some mention of the good looking men in St. Paul and Minneapolis. Getting right down to specific cases, we'd like to nominate R. G. McCord, sales manager of the Bohn Refrigerator Co. He's our idea of What the Well Dressed Young Man Will Wear, and the Answer to the Maiden's Prayer.

He has, in addition, a fetching combination of the alertness of the North and the courtesy of the South.

BACK ISSUES AVAILABLE

Requests frequently are received by the News for copies of back issues, some of which are exceedingly hard to obtain. A faithful reader of the News, who has been a subscriber from the beginning, but who is now retiring from the refrigeration business, has written that he has a complete file of the paper, beginning with Volume 1, No. 1 (September 11, 1926), through Volume 4, No. 12 (February 12, 1930). He also has duplicate copies of several issues. All of these he would be glad to sell.

Reproduction of "Medal of Honor" Frigidaire advertising now appearing in newspapers over signatures of local dealers.

FRIGIDAIRE
The Aristocrat of Christmas Gifts

For
a Christmas that will
stand out in her memory



The "Medal of Honor" Frigidaire
Here is the beautiful sterling silver medallion or
"Medal of Honor" that's affixed to the cabinet of all
gift Frigidaire, at no extra charge. It is truly a medal
of honor conferred on one who has more than earned
this token of your esteem.

Thus, to this aristocrat of Christmas gifts, we give
the personal touch your jeweler achieves when he en-
graves a rare piece of jewelry.
This medallion may be engraved with the name of
the recipient of the Frigidaire, or with the names
of both recipient and donor, as shown in the picture.
Or, if you prefer, you can present the medallion
alone (in a handsome velvet case) on Christmas morn-
ing and let the fortunate one select her own Frigidaire
at her leisure.

Here is a gift that combines sentiment
and usefulness in a way she's sure to
like—a Frigidaire with a beautiful ster-
ling silver medallion that can be suit-
ably engraved and permanently attached
to the cabinet—a constant reminder of
your thoughtfulness—a constant token
of your love and affection.

Yes this is a gift that you know will
please her. For you know that she wants
and needs Frigidaire—that its conven-
ience will mean constant enjoyment
year after year.

So come in and let us help you set the
stage for a Christmas she will never
forget.

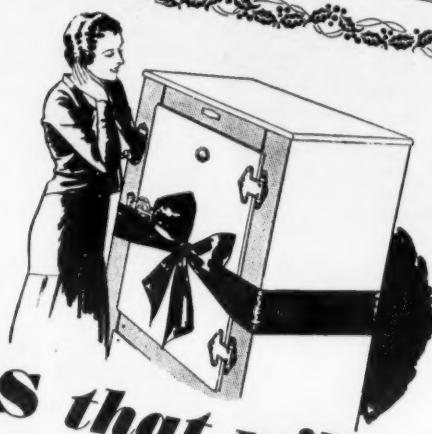
Let us show you all that it will mean
to her to have the benefits of the famous
"Cold Control," the Hydrator, the
Quickube Ice Tray, and a cabinet of
Porcelain-on-steel, inside and out. Let

us show you the many other features
that make Frigidaire the aristocrat of
Christmas gifts.

And let us show you, too, how easily
any model can be bought on special
Christmas terms. Stop in today.

FRIGIDAIRE
Aristocrat of Christmas Gifts

(Dealer's Name and Address)



NEW

Christmas sales idea brings profit to Frigidaire dealers

FRIGIDAIRE dealers aren't wondering what to do about getting Christmas business. That's all taken care of with a sound, money-making merchandising plan developed at Frigidaire headquarters.

Everyone agrees that Christmas giving is 95% sentiment. The problem, then, was to get people to think of Frigidaire not as a mere kitchen utility, but as a gift as personal as any that could be bought at Christmas time.

This was accomplished with the "Medal of Honor" Frigidaire—a brand new Christmas sales idea.

Already millions are reading about the "Medal of Honor" Frigidaire for Christmas in newspapers throughout the country. Newspaper advertising, however, is but one phase of the merchandising plan. Nothing has

been left undone to insure larger Christmas profits to Frigidaire dealers.

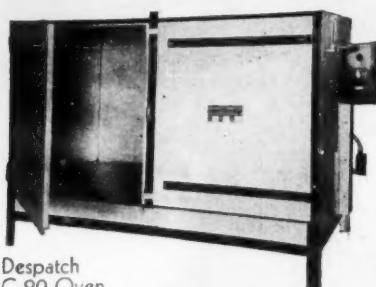
Window displays—arrangement of store interiors—handling of direct mail—ideas for getting bigger showroom attendance during the holidays—contests and prize offers to stimulate sales and salesmen's activities—have all been incorporated in this plan.

As a result, dealers and dealers' salesmen don't have to waste time and money and energy trying to figure out plans for themselves.

The "Medal of Honor" idea is typical of similar sales plans offered to Frigidaire dealers throughout the year. If you're looking for a franchise that has this sort of sales help back of it, write today for facts and figures.

FRIGIDAIRE CORPORATION
SUBSIDIARY OF GENERAL MOTORS CORPORATION
DAYTON, OHIO

Uniform Dehydration



Despatch
C-20 Oven

of refrigerator units in the service station is secured with Despatch Ovens. Of a scientific design to assure uniform heat distribution, these ovens are sturdily built to give long service. Despatch ovens are well adapted to service station work and will give positive and uniform results with low operating costs.

Already, over 100 service stations have standardized on this equipment.

Bulletin No. 90 describes these service station ovens in detail. Write for your copy today.

DESPATCH OVEN CO.

623 Ninth Street Southeast
MINNEAPOLIS, MINNESOTA

REPRESENTATIVES IN PRINCIPAL CITIES

Builders also of large dehydration, primer and lacquer ovens.

ELECTROLUX CONTINUES TO GAIN IN BIRMINGHAM

Birmingham, Ala.—The Birmingham Gas Company, Electrolux dealers, expect to close out the year 1930 with well over a thousand machines in the Birmingham district, sold and installed by them. The company is little more than eighteen months old, having been organized in May, 1929.

Upon taking over the Electrolux franchise in the city there were two Electrolux machines in Birmingham homes. The company, through A. H. Ayres, has installed units in many apartment houses here. There are now 458 units in apartments.

With only about twenty more business days to go the concern has sold and installed a total of 947 machines in Birmingham for the year 1930, according to A. H. Ayres, manager of the refrigeration department.

Concentration in the next few months will be placed on sales to private homes rather than apartments. Direct mail advertising will be used extensively along with a considerable amount of newspaper advertising.

MARTING WILL HANDLE MAJESTIC IN CAPE TOWN

Cape Town, South Africa—The Majestic refrigerator will be sold here by F. W. Marting, who has been identified with refrigeration here for some years. Mr. Marting obtained the Majestic franchise while in the United States recently. He visited the Majestic factory at Chicago, and left full of enthusiasm for the new product. In connection with his Majestic sales Mr. Marting is planning to handle suitable refrigeration accessories.



Trupar Equipment for Dayton Market

Dayton, Ohio—The Trupar Manufacturing Company has recently completed an installation in the newest unit of the Hale's Liberty Market group of food and meat markets in this city.

The cooler in the basement is a walk-in type, 10 feet wide, 11 feet high and 30 feet long. An insulated partition across the center divides the cooler, one-half being used for meats, the other for vegetables. Four Trupar-Larkin coils are installed in the cooler, having 1,400 square feet of vertical area. Refrigeration is supplied by two No. 1001 Trupar compressors.

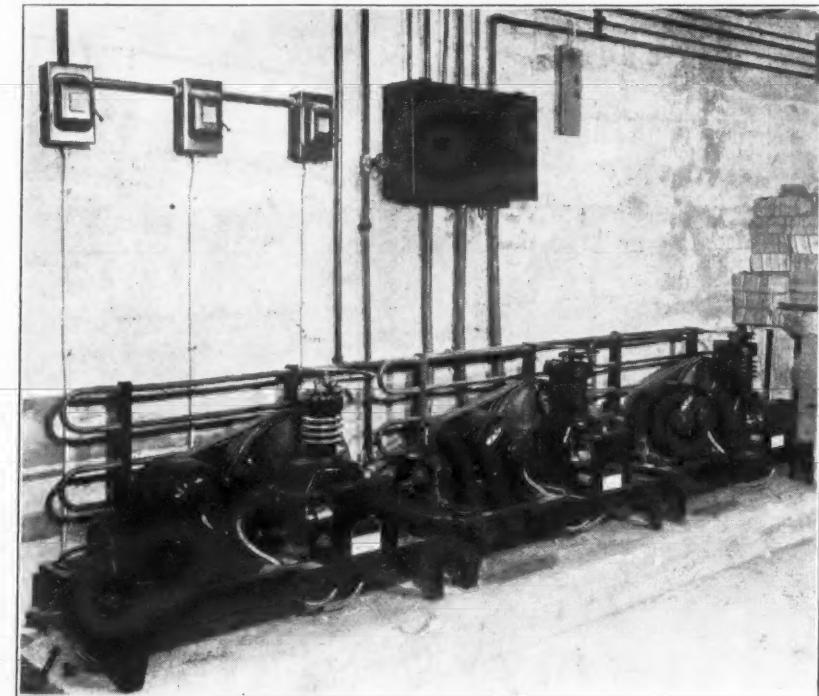
Temperature ranging from 34 to 36 degrees has been constantly maintained, and the cooling coils have not only been entirely free from frost, but are constantly moist.

Moisture on the coils indicates a coil temperature above 32 degrees. With an average box temperature of 35 degrees, there is less than three degrees difference between the coil temperature and the box temperature.

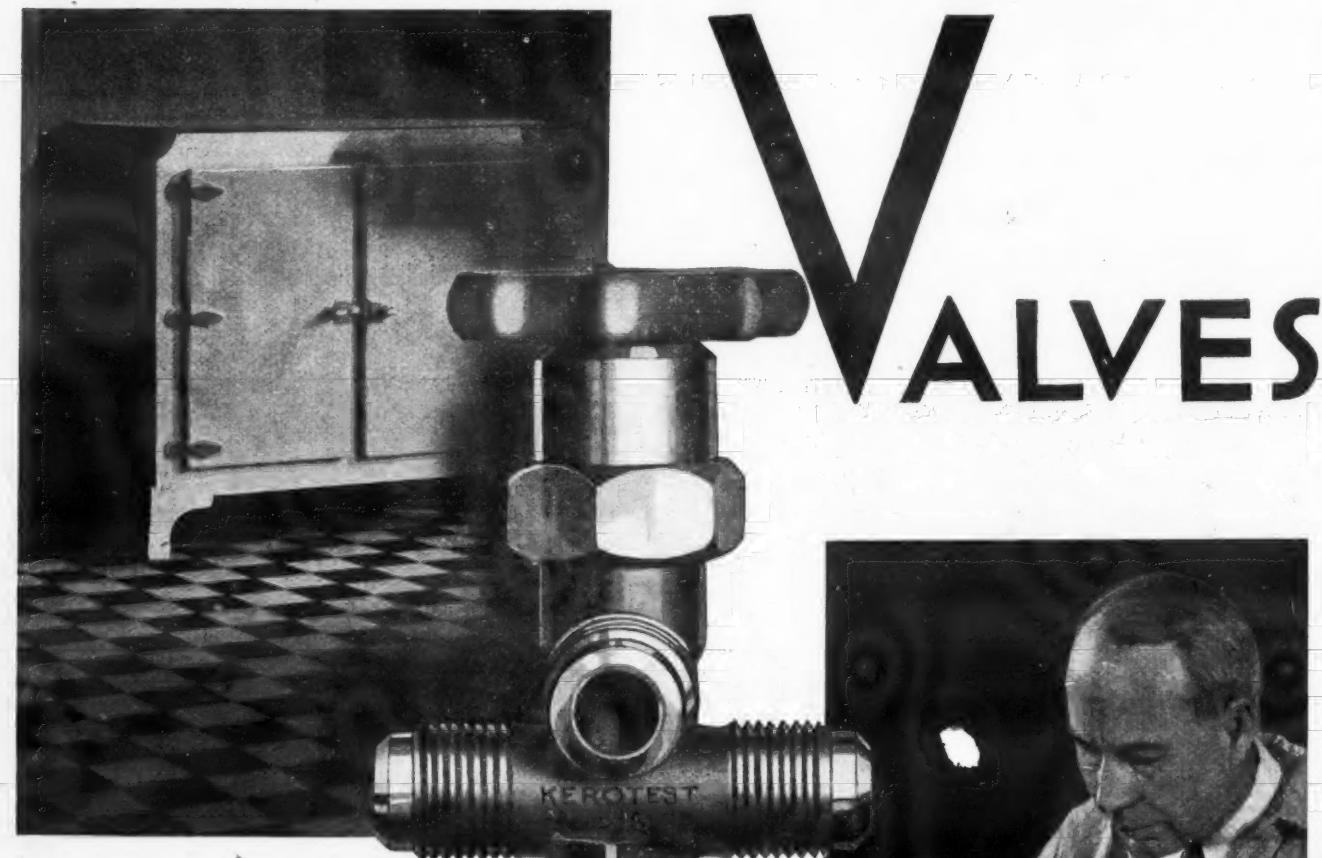
Tests have proven that meats are being kept without any loss of weight, and open cuts of meat kept over a ten-day period have shown no discoloration due to drying out.

Another feature of the installation is that there is eight feet between the floor and the baffle. This unusual amount of head room adds nearly one-third to the food storage capacity of the box.

In addition to the gigantic cooler, there is 16 feet of McCray display counters, operated by a No. 501 compressor.



The Compressor Lineup in the basement.



If it is used
in a MECHANICAL REFRIGERATOR
KEROTEST makes it . . .

Thanks to the splendid cooperation of our many friends in the mechanical refrigeration industry, we have developed in Kerotest Valves and Fittings a type, size and style to meet every standard refrigeration requirement. They embody the refinements of years of constant improvement plus that distinctive Kerotest craftsmanship which has made Kerotest renowned throughout the world.

The complete line is described in the new 32 page Kerotest Catalog—a valuable handbook of information which we will be pleased to send you upon request.

KEROTEST MANUFACTURING COMPANY PITTSBURGH, PENNA.

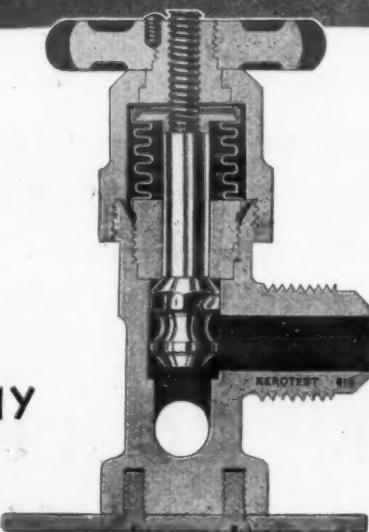
Detroit, Mich.
W. H. Mark Hanna
6-247 General Motors Bldg.

Los Angeles, Calif.
Van D. Clothier
224 East 11th St.

San Francisco, Calif.
A. W. V. Johnson
Merchants Exchange Bldg.

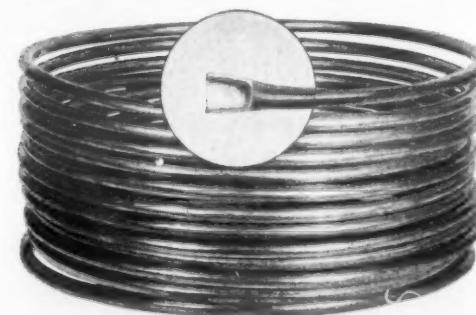
Philadelphia, Pa.
Fretz Brass & Copper Co.
523 Arch Street

St. Louis, Mo.
Brass & Copper Sales Co.
2817 Laclede Ave.



DEHYDRATED WOLVERINE SEAMLESS COPPER TUBING

Highest quality seamless copper tubing—perfectly dehydrated and solder-sealed—made to A. S. T. M. Specifications (B-68-30-T)—ready for quick installation. Send your production requirements for quotations, or wire for rush shipment from stock.



WOLVERINE TUBE CO.

SEAMLESS COPPER & BRASS & ALUMINUM

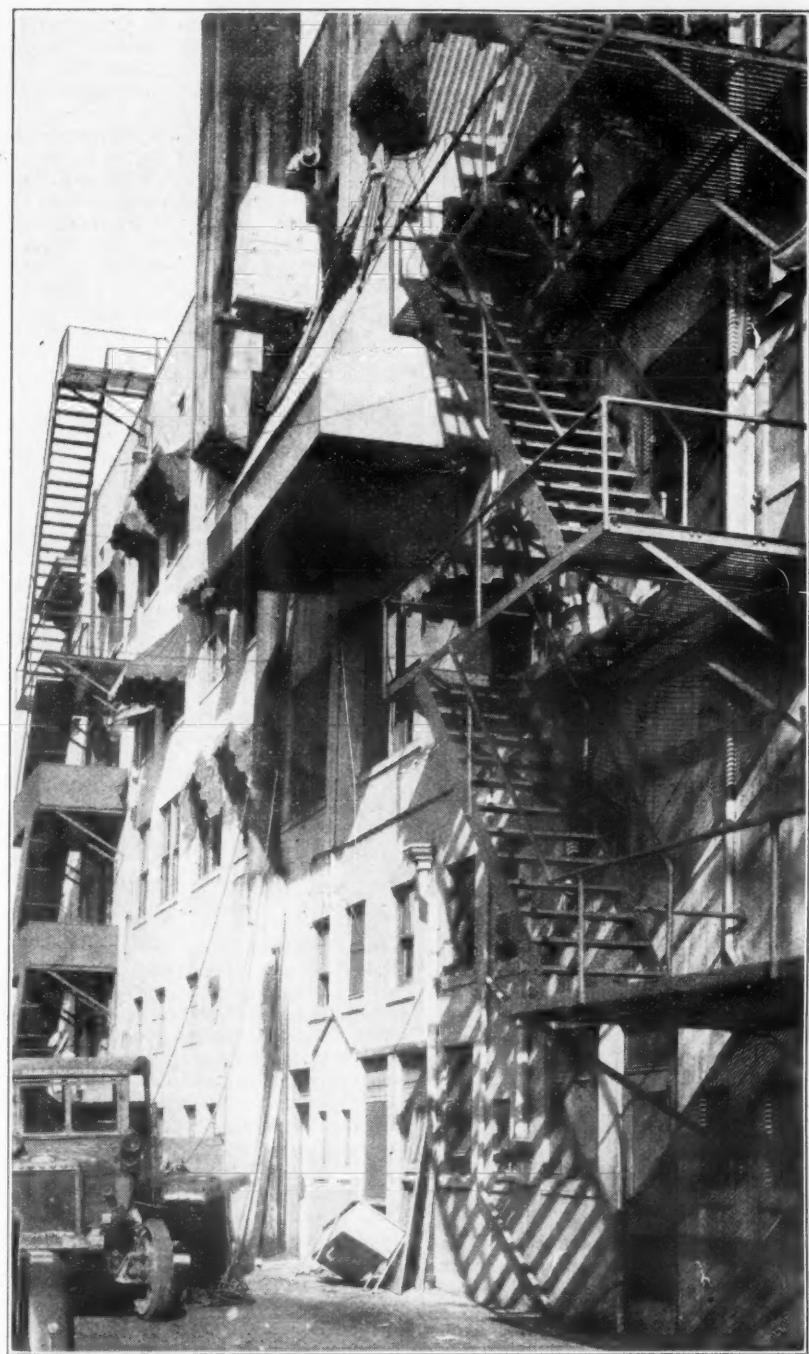
1491 Central Ave. Detroit, Mich.

Phone Cedar 5000

Export Department—H. M. Robins Company,
120 Madison Avenue, Detroit, U. S. A.
Cable Address: Robins, Detroit

Sales offices in all major cities. Stock available at Los Angeles,
224 E. 11th St. Write or wire for name of nearest representative

**There's More Than One Way
To Install a Refrigerator**



The Refrigerator nears its goal.

Fresno, Calif.—To install an electric cooler in the California Commercial Club it was necessary for the service and cartage men to resort to unusual tactics. Finding the elevator in the building too small to accommodate the large box, 3 ft. by 8 ft. and 6 ft. in height and weighing more than 2,000 lbs., it was decided that the only possible method was to hoist the refrigerator from the outside of the building and

put it through a window. It was a ticklish job, but it had to be done.

The Valley Electrical Supply Co. obtained this order and the box was moved while assembled. About a year ago this club installed a small refrigerator and the results were very satisfying. The large commercial refrigerator which was installed via the air route has taken the place of the earlier machine. In addition, the club also has an ice maker.

Made by our exclusive patented process.



Pure. Easy to handle. Does not deteriorate.

**The Purest Sulphur Dioxide
EXTRA DRY
ESOTOO**

Trade Mark Reg'd U. S. Pat. Off.

Made expressly for refrigeration use. Guaranteed to contain not over 50 parts of moisture per million

Prompt shipments from our stocks at West Norfolk, New York, Boston, Atlanta and Jacksonville, or from our stocks with agents:

Ice Machine Service Corp., Miami, Fla.
Refrigeration Service & Supplies, Tampa, Fla.

Bartlett Chemicals, Inc., New Orleans, La.

Chemical Utilities Co., Cincinnati, Ohio

G. S. Robins & Co., St. Louis, Mo.

Denver Fire Clay Co., Denver, Colo.

The Braun Corp., Los Angeles, Calif.

Braun, Knecht-Heimann Co., San Francisco, Calif.

Carl F. Miller & Co., Seattle, Wash.

Write, wire or cable where we may serve you. Cable Address "Eustis Boston"

VIRGINIA SMELTING COMPANY

WEST NORFOLK, VIRGINIA

F. A. EUSTIS, Secretary
131 State St., Boston, and 75 West St., New York

**PLENTITUDE OF PROBLEMS
PERPLEX THE SERVICEMAN**

Jacksonville, Fla.—Problems confronting the serviceman seem to have no let-up. At least J. B. Venters, of Brand & Venters, who are rendering electric refrigeration service here, believes this to be so. After spending two years ironing out the mechanical wrinkles in refrigerating machines, he finds that there is more to service than just making the machine run.

The business depression came along with its playmate "financial worry" and both plunged right in to make the serviceman's job a more complex one. Florida was also caught in the downward swing of business and folks who had refrigerators to be serviced were more concerned with what the work was going to cost than they were two years ago, when Brand & Venters entered the field. The job of rendering service had now become one of selling service.

Depreciation entered into the picture as some of the companies started to allow twenty-five to thirty dollars on old machines traded-in for newer models. With the low trade-in or resale value of the machines, it became difficult to get a fair price for repairs necessary to put the unit in satisfactory operation.

In two years' time a large business has been built up by these two Florida men. At the present time they carry in stock over \$8,000 worth of parts and equipment. Service calls either during the day or night receive immediate attention, as twenty-four hour service is offered.

When Brand & Venters opened their shop, one of the popular makes of refrigerators kept them on the jump. During the third week after opening for business, they had 81 calls for service and were obliged to work day and night to handle the unexpected rush.

Service calls during the first year on

this make of machine totaled 582, the records of which show that 376 calls were for motor trouble. On 206 of the service calls, they replaced the motors with ones of a different make. In checking over the records, Mr. Venters finds that of the motors replaced at that time, only two required any further service. "This was not a bad machine after all," Mr. Venters said, "it was the motor that caused all the trouble."

With this same make of machine they later found that by replacing the pressure switch with a thermostat switch it was possible to reduce the calls for short cycling to a minimum. Leaks at first were dreaded, but they became accustomed to them.

Fifteen Holmes electric refrigerators have been changed over by this southern organization. By using a Servel compressor in place of the Holmes rotary machine, a high side float and replacing the liquid line with $\frac{1}{4}$ -inch tubing, they found that the machine could be put into satisfactory operation. The same Ranco control was used and compressor was charged with methyl chloride. Running time for the improvised refrigerator was six minutes with an idle period of about sixty minutes.

**MAJESTIC IN OREGON GETS
ORGANIZED**

Portland, Ore.—Majestic dealers in the State of Oregon, to the number of 150, met with officers of the Majestic Distributing Company for the introduction of the new Majestic refrigerator. The Majestic Distributing Co. has handled Majestic radio receivers in Oregon, Washington, Montana and Idaho for a number of years and has established numerous retail outlets.

Officials in attendance here at the first meeting were William O. McKay, president; B. M. Hutchinson, advertising director; Abner Wilson, general manager, and William J. Walsh, assistant general manager.

Filtrine Give your electric water cooler an additional selling point by equipping it with a FILTRINE guaranteed filter. Pure, clear water assured.

FILTRINE MFG. CO.
49 LEXINGTON AVE., BROOKLYN, N. Y.
Manufacturers of filters and coolers in all sizes

**HANDY & HARMAN
Silver
Solders**

used in brazing certain joints and connections in each electric refrigerator you build will safeguard the reputation of your product and save servicing expense.

"Silver-brazing" is a permanent insurance against leakage, because silver solders flow freely and penetrate where base-metal solders cannot. Silver-brazed joints resist corrosion and withstand expansion and contraction stresses, vibration and shock.

Send for Bulletin 3ER
for vital and interesting information on welding, brazing and soldering with "Handy" Standardized, Guaranteed Silver Solder.

HANDY & HARMAN
57 WILLIAM ST.
NEW YORK CITY

**Comparative studies
show Brass cheaper
for most screw machine products**

A GREATLY increased rate of production due to the superior machining qualities of brass, together with the high salvage value of brass scrap, serve in the majority of cases to bring the total cost of producing a given piece in brass well below that of production in steel.

The following examples illustrate the production increase with brass and consequent cost reduction in three typical cases.

PIECE	PRODUCTION		COST REDUCTION per M pieces with brass
	per machine per day	Steel	
Filler Cap	4100	800	37.8%
Retaining Nut	2000	176	35.5%
Valve Clapper	1350	300	7.5%

Increased production and high scrap value are but two of the reasons why scientifically alloyed Anaconda Free-Turning Brass Rods are rapidly receiving recognition from leading manufacturers as the best all-around material for the manufacture of screw machine products. Complete information in Publication B-14.

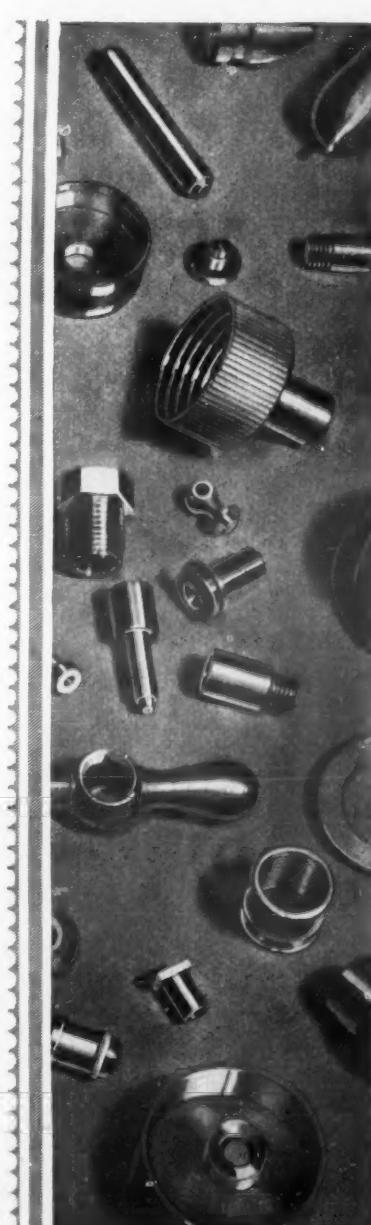
For screws, bolts, valves and other parts in contact with acids or refrigerants, Everdur* is used to advantage. It is an exclusive Anaconda alloy of copper (96%), silicon and manganese, combining the strength of steel with extreme corrosion-resistance. Further information is contained in Publication E-2, sent on request.

*Trade-mark Reg. U. S. Pat. Off.

THE AMERICAN BRASS COMPANY

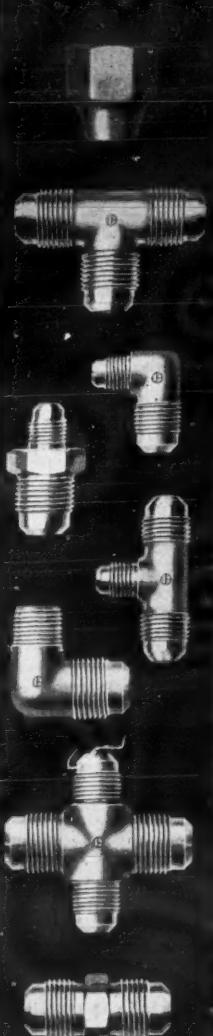
General Offices: Waterbury, Connecticut

Offices and Agencies in the Principal Cities



ANACONDA
COPPER **ANACONDA** BRASS





EXACTITUDE!

IN NO business more than in the manufacture of seepage-proof fittings for automatic refrigeration is exactitude a cardinal virtue.

Every fitting must resist the attack of refrigerating agents; must make-up a tight non-porous joint to prevent any possibility of leakage.

These requirements are met in the case of Commonwealth Brass Company's Tube Fittings by exactitude in metals; by hot forging; by close limits in machining and 100% inspection. After these comes careful packing to insure that every fitting reaches the customer "Built Right to Stay Tight."

For more than 19 years leaders of the refrigeration industry have learned to rely on

COMMONWEALTH SEEPAGE-PROOF FITTINGS

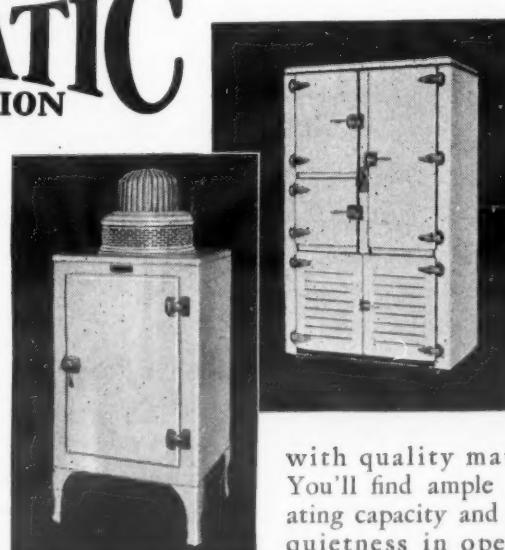
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COMMONWEALTH BRASS CORPORATION

COMMONWEALTH and GRAND TRUNK R. R.
DETROIT - MICHIGAN

*Be your own
Santa Claus...
give yourself a better break
with*

WILLIAMS ICE-O-MATIC REFRIGERATION



WHY wait for Santa Claus to present you with a pot of gold? Be your own Santa Claus—give yourself a chance to make the money you want by giving yourself a better break. Cut in on Williams Ice-O-Matic profits.

The Ice-O-Matic franchise is a direct-with-the-factory franchise. You're safe from high-pressure commitments of stock and from price-cutting neighboring dealers. You get factory co-operation—not dealer-against-dealer competition. You get sound merchandising help—not romantic moralizing pep-talks. And you get a product you can sell—one that will stay sold without running you into the red for "free service."

Furthermore, we insist that you look before you sign. Look at the product—Williams Ice-O-Matic. Study it inside and out. You'll see precision building

with quality materials. You'll find ample refrigerating capacity and pleasing quietness in operation.

You'll discover sales possibilities that are begging to be worked—a domestic Ice-O-Matic Capitol at \$175, f. o. b. factory, deluxe Ice-O-Matic all-porcelain models, and commercial units for added profits.

Get a close-up picture of this great opportunity. Write or wire today for complete information on the new Williams Ice-O-Matic line, on the full-discount dealer-and-factory franchise, on the actual money other far-sighted dealers have made with Ice-O-Matic. Give yourself a better break—write or wire now for these money-making facts.

Ice-O-Matic Division

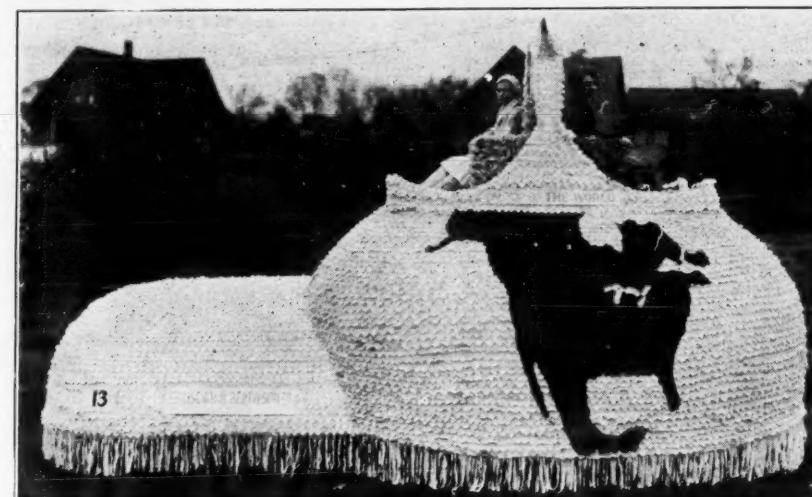
WILLIAMS OIL-O-MATIC HEATING CORPORATION

Bloomington, Illinois

WILLIAMS OIL-O-MATIC HEATING CORP.

Bloomington, Ill.
Please explain Williams Ice-O-Matic and the Williams Franchise.
Name _____
Address _____
City and State _____

On Top of the World



Bridgeport, Conn.—Business was stimulated by a Mardi Gras and Pageant staged recently in the Black Rock section of Bridgeport by all of the merchants.

Oscar B. Bertilson, president of the Oscar B. Bertilson Co., plumbing and heating contractors and dealers for Williams Oil-O-Matic oil burners and Ice-O-Matic refrigerators, is also the president of the Black Rock Business Men's Association, which sponsored the affair. He said: "Although it cost us considerable money and time to stage the Mardi Gras and Pageant, it was in the end the cheapest and most effective advertising that any of us Black Rock merchants have ever done."

The floats-in the parade were judged upon the point basis, ten points being the highest possible amount that any float could score. The float entered by the Bertilson Co., representing Miss Ice-

O-Matic and Miss Oil-O-Matic sitting upon the top of the world, won the silver loving cup offered for first prize, scoring the full ten points. Second prize was awarded to a florist.

The Bertilson float had a wood and cheesecloth framework, covered with crepe paper, made in rose petal edging and placed one above the other in tiers. It was built over a Nash sedan, completely covering the car. Blue crepe was used for the water, brown for the continent of North America, and white was used around the bottom and to cover the hood of the car.

Two throne chairs were built back to back, upon the top of the world, with a background of crepe paper separating them. Miss Florence Bertilson, dressed in a white skating costume, represented Miss Ice-O-Matic. Miss Ice-O-Matic was sitting in a light blue chair, facing the front and had a background of blue and white crepe paper. Eight daylight blue automobile headlight bulbs were set in tin reflectors around the base of the throne and were used as footlights, one battery being used for each four bulbs. The finished effect gave a very cold appearance to Miss Ice-O-Matic.

Sitting in a canary-yellow chair, facing the rear, was Mrs. J. O. Bundy, portraying Miss Oil-O-Matic. Miss Oil-O-Matic was dressed in red, with a red and yellow background. She was without head-dress, showing her flaming tresses to give the appearance of warmth. Regular yellow headlight bulbs were used as footlights.

The two backgrounds were about eight inches apart at the top, coming together at the bottom, and were closed at the sides. Four small bulbs were placed between the backgrounds and were shining through the crepe paper.

The float was built under the direction of J. O. Bundy, sales manager of the Bertilson Co. Mr. Bundy was employed as special field representative in the Ice-O-Matic department of the Williams factory at Bloomington, Ill., before going with the Bertilson concern a little over a year ago. Mr. Bundy has had experience with a number of refrigerators and

lumber, and approximately 200 hours' labor were used to construct the float. A large portion of the work was done after the regular working hours at get-together parties. The float was 11 ft. high, 11 ft. wide and 20 1/2 ft. long.

In addition to the prizes offered for the best float, there were prizes offered for the best window, the best dressed man, the best dressed lady, the best dressed boy, the best dressed girl, and the jester.

The Bertilson window display, also decorated by Mr. Bundy, won second prize. The window was divided, displaying an oil burner on one side and an Ice-O-Matic Capitol compressor, attached to and frosting a coil made to form the word Ice-O-Matic, on the other.

NORGE DISTRIBUTORS SEE NEW MODELS

Chicago, Ill.—Norge distributors gathered here on Tuesday to discuss the 1931 plans for expansion of distribution and advertising of the Norge electric refrigerator at their annual convention, December 2-3.

Certain sessions of the convention will be held jointly with the officials of the Borg Warner Corporation, the parent company which acquired the Norge Corporation in 1929.

On Tuesday morning the distributors viewed the new Norge models which will be offered to the public early in January. Changes in these models are limited largely to minor refinements in the cabinets.

BRIGHT BURGLARS PREFER REFRIGERATORS

Danbury, Conn.—Even the burglars are going in for electric refrigeration in this section. In two recent house robberies, one at New Canaan and the other at Stamford, nothing was taken but the electric refrigerators. In both cases a truck was driven to the back door while the family was away and the refrigerator removed. Both stolen refrigerators were General Electrics.

TEMPRITES IN EVANSVILLE TERMINAL

Evansville, Ind.—Three Model M-110-W Temprite wall fixtures containing cooling units have been installed in the new River Rail Terminal Building here. The multiple installation was made by the local Servel distributor.

HORNE TAKES POST WITH UNIVERSAL COOLER

Detroit, Mich.—The appointment of A. E. Horne, Jr., as manager of distribution, has been announced by J. W. Taylor, vice-president of Universal Cooler Corporation, Detroit.

**Brighten up
your dull months!**

Are you looking for something to add to your line—a home specialty which will bring in money when refrigerator sales are at the low point—a device in no way competitive with refrigerators yet similar in selling point, market installation? Then write for our liberal distributor proposition. Thermostatic control for heat, red and automatic home-heating with cool. Other refrigerator distributors have filled out the valleys in their yearly sales curves with Thermostatic. You can, too.

Write today for information

HEAT CONTROL CORPORATION
Hatfield, Mass.



Mr. and Mrs. J. O. Bundy with the cup won by the Bertilson organization.

was one time manager of the commercial refrigeration department of the Indianapolis Power & Light Co., of Indianapolis, Ind.

Mr. Bundy states that the crepe paper was cut into strips four inches wide and ten feet long, and if placed end to end that the paper used would reach over one-half mile. Over 7,000 pins were used, over 3,000 tacks, 50 yards of cheesecloth, 7 lbs. of nails, \$14.00 worth of

Specialized FORGINGS

for every
Electrical
REFRIGERATION
NEED

**DETROIT
FORGING**
Company

Detroit Michigan
Members of Detroit Business Pioneers

**Sulphur Dioxide
For Direct Charging!**
Every Container Analyzed
"Pure" Bone Dry
Cylinders
2 to 150 lbs
WANSUL Chemical Co.
MARINETTE, WIS. // ALSO
Ton Drums-Ton Cars.

Books on Refrigeration For Varying Types of Readers

IN common with other fast growing industries, refrigeration—especially that branch of the industry devoted to household refrigeration—has outdistanced its literature. It is easy enough in this modern world to obtain at a moment's notice a wealth of data concerning any or all of the football teams that have been performing in the last couple of months, but getting up-to-the-minute material in regard to so insignificant a thing as an industry doing a business amounting to hundreds of millions of dollars annually is a much more difficult problem. So wags the world.

There are a number of excellent books on refrigeration, but only one of any considerable prominence that devotes itself entirely to household refrigeration.

This article will concern itself with brief summaries of the content of seven books on refrigeration, all written by men of good repute in the industry, and all published within the last four years.

First on the list, because as mentioned above, it is the only one dealing exclusively with the domestic unit, is *Household Refrigeration*, by H. B. Hull, who has been identified with Frigidaire in development work. This book, first published in 1924, is now in its third edition. The second edition was brought out in 1926, and the present volume in 1927. It begins with a brief history of the development of refrigeration, tracing the story from the attempts of the ancients to cool water and wine down through the centuries to the present day.

With his history out of the way, Mr. Hull plunges at once into a discussion of refrigerants, and his opening statement shows why the scientists are still hunting for a wholly satisfactory refrigerant. He states fourteen points which the ideal refrigerant should possess, and like the more famous fourteen points, they seem to defy attainment, at least collectively. It is almost inconceivable that any one refrigerant should possess all of the virtues which Mr. Hull seeks.

Unable to produce an ideal refrigerant, the book makes the best of those available and devotes nearly fifty pages to carefully compiled tables which indicate the properties of the various refrigerants now in use.

When the discussion of the different household machines on the market begins, the reader becomes acutely conscious of the fact that the literature of refrigeration has not kept pace with the development of the industry. Sandwiched in between such good old standbys as Copeland and Kelvinator, Frigidaire and General Electric, are refrigerators whose names are now but memories, and none too pleasant memories at that, especially for those who backed them with coin of the realm. They are all there, the whole Class of 1927 in all its glory.

This part of the book is profusely illustrated. There are eight pages given over to Frigidaire, with a host of pictures of the 1927 models. Kelvinator gets four pages, and G. E., then the baby of the industry, had to be content with three.

Ice refrigerators of various makes are also described. The book contains nearly 500 pages. Despite the space devoted to machines which are no more, it is of real value to the refrigeration man. The strictly technical data, obedient to the laws of Nature, does not change.

Second on our list is the latest volume to come to hand, *Industrial Refrigeration, Cold Storage and Ice-Making*, by A. J. Wallis-Taylor, and edited by R. J. Cracknell. It is the seventh edition of this work by a notable British refrigerating engineer, and as the title page explains includes "a chapter on small commercial and household refrigerating plants."

Although this chapter on household units comes at the back of the book, which incidentally numbers 762 pages of text, it doubtless will be of greater interest to the majority of readers of the News than the remainder of the volume. It reviews the remarkable growth of this division of the industry, describes the different household machines now being marketed in England, including Kelvinator and Frigidaire sold under their American names, and G. E., which on the other side of the Atlantic is called the B. T. H. refrigerator, short for British Thompson, Houston. The chapter also describes several other British makes, not familiar here.

The main portion of the book contains comprehensive chapters on the different refrigerating processes and systems illustrated by pictures and diagrams and supplemented by tables. The liquefaction process, the vacuum process, the compression process and the absorption process all are thoroughly reviewed and discussed. The compression system, of course, taking up the major portion of this section of the book.

There is a chapter on air circulation, one on insulation, and others on dairy refrigeration, marine refrigeration, manufacturing applications, ice making, testing of machinery, costs and low temperatures. The whole book gives evidence of thoroughgoing preparation. The American edition was published within the last two or three months.

The other five books will be described just as they happen to be picked up. Third in the sequence is *Refrigeration*, by James A. Moyer and Raymond U. Fritz, both well known as educators. This book carries the subtitle, "Including Household Automatic Refrigerating Machines." It is still in its first edition published in 1928. Household refrigeration occupies a chapter of about fifty pages in the middle of the book; but much of the material which goes before is of a general and theoretical nature which applies to both big and small machines. These earlier chapters treat of such subjects as refrigerating systems, properties of refrigerants and compressors for refrigerating plants.

The household chapter describes the leading domestic refrigerators, and is liberally illustrated by line drawings showing intimate details of the various units. Although only two years old, the

book includes a few makes which are no longer in the arena. The chapter closes with a description of the Crosley Icyball and Electrolux, plus a French system which uses water as a refrigerant.

The remaining chapters discuss operation of refrigerating systems, thermodynamics of refrigerating systems, refrigeration economics and plant testing, ice making, cold storage, and air conditioning. The entire book gives the impression of skillful condensation of a complex subject.

Practical Refrigeration, compiled by L. H. Morrison, of the editorial staff of *Power*, is largely made up of material culled from articles appearing in that useful publication. It was first published in 1921 and the present edition was brought out in 1928. Its chapter headings reveal the nature of the book, which is comparatively short, numbering only 250 pages, including tables. Some of the titles are: Elementary Refrigeration; The Evaporating System, Compressors, Condensers, Installing Refrigerating Machinery; Insulators; etc.

A compact little volume bearing the title, *Handbook of Refrigerating Engineering*, is by Professor W. R. Woolrich, of the University of Tennessee, who happens to be one of the speakers at the current A. S. R. E. meeting in New York. The book was published in 1929. After establishing himself by a series of "refrigeration definitions," Professor Woolrich deserts the usual procedure of refrigeration treatises, and writes a chapter on Food Preservation, thus making clear the real purpose of refrigeration before embarking on a discussion of the machinery itself. The different refrigerants, which he calls "refrigerating mediums," follow, with a special chapter on ammonia.

The compression system then receives attention, followed by several less important systems grouped under one chapter heading. Heat transfer, the absorption system, the absorption machine and carbon dioxide, all have chapters to themselves. Ice-making systems, testing methods, refrigeration equations, and a host of tables complete the book which contains more than 300 pages and is well adapted to the use of scientifically-minded men.

Principles of Mechanical Refrigeration, by Professor H. J. Macintire, of the University of Illinois, was first published in 1922. The second edition is dated 1928. Its title page calls it, "A study course for operating engineers," and it is written in a style which should make it comfortable reading for the non-technical man who would like to learn more about refrigeration. It begins with a pleasantly written introduction which reviews much of the elementary refrigeration knowledge, continues with a chapter on thermodynamics, which Professor Macintire regards as somewhat forbidding but nevertheless necessary, and then plunges into a discussion of the various parts that make up a refrigerating machine.

There are chapters on heat transfer, refrigerants, piping and piping calculations, erection and operation, ice making, and other refrigeration applications. The household refrigerator comes in for scant attention as such, but, of course, a large part of the material and accompanying tables deal with principles and methods which are common to both large and small machines.

Principles of Refrigeration, by William H. Motz, was published in 1926. It is a thoroughgoing work, written just when the domestic refrigerator was coming into prominence, but contains little material in regard to that section of the industry. As the book lacks that vital part of every good book, an index, it is difficult to determine without reading the entire 640 pages whether or not household refrigeration receives that attention which is its due. The usual subjects, refrigerants, refrigerating systems, heat transmission, manufacture of ice, cooling of air, erection and testing of apparatus are included.

Then there is a chapter on the economics of refrigeration, and a miscellaneous collection of material headed "General Considerations." This chapter, which winds up the book, contains such

material as engine room records, and contracts and specifications.

Full details in regard to price, etc., of all of these books may be obtained by writing to ELECTRIC REFRIGERATION NEWS, 550 Maccabees Building, Detroit, Michigan.

MECHANICAL REFRIGERATOR MADE BY SANITARY CO.

Fond du Lac, Wis.—The Sanitary Refrigerator Company has made definite plans for entering the mechanical refrigeration field. A small mechanical refrigerator will be offered to dealers by the Sanitary Company at the January Furniture Market at Chicago. Delivery of the new refrigerator will get under way during the spring months.

GURNEY CO. TO MARKET MECHANICAL UNIT

Fond du Lac, Wis.—Production of mechanically operated refrigerators by the Gurney Refrigerator Company is scheduled to get under way at the factory here about the first of January. At the present time the company has one model ready for the production line.

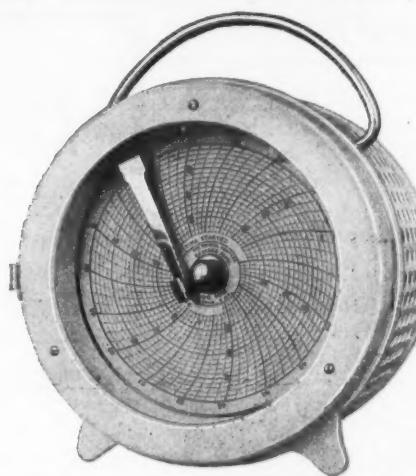
E. G. Vail is president of the company.

TWO LARGE ORDERS

Detroit, Mich.—"An encouraging indication of increasing business was seen recently when two of the world's largest producers of electric refrigerators placed substantial forging orders with us," said A. L. Rose, vice-president in charge of sales of the Detroit Forging Company.

A Convincing Talker...

on Cooling Chamber Temperatures



To handle customer complaints is a matter which sometimes requires considerable **diplomacy**. When it is a question of temperature in the cooling chamber there is nothing more satisfactory to all parties concerned than a continuous automatic temperature record furnished by Bristol's Recording Thermometers.

Especially developed for this work is the Bristol's Handy Recording Thermometer . . . easily portable so that it can be placed in the unit to give an unbiased decision of . . . How Cold is that Cooling Chamber?

The 4-inch diameter chart makes one complete revolution in 72 hours or exactly 3 days which is sufficient time to give a fair criterion of existing conditions, entirely uninfluenced by outside sources.

This Handy Recording Thermometer has all the construction features necessary for cooling chamber installation, including specially developed range with chart temperatures from 30 to 70° F. or -20 to 80° F. Instruments thus calibrated are carried in stock for prompt delivery.

Ask for Bulletin No. 377 giving details and price.

THE BRISTOL COMPANY Waterbury, Connecticut

Branch Offices: Boston Detroit Pittsburgh San Francisco Akron Philadelphia St. Louis Chicago New York Denver Los Angeles Birmingham

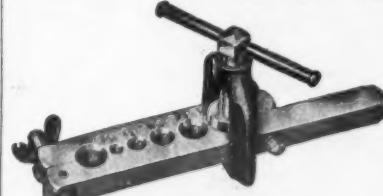
Imperial

Aids To Better Installations



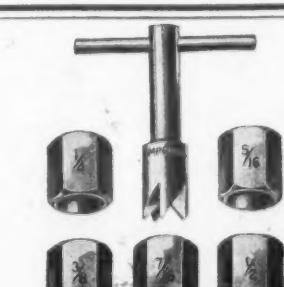
Imperial Tube Cutter

Here is a highly efficient tool for cutting copper, brass, block tin and lead tubing. It takes all sizes of tubing from $\frac{1}{4}$ " to $\frac{3}{4}$ " and makes a right-angle cut, quickly and cleanly, leaving no burrs or chips to clog the line. The tubing does not become out of round as when put in a vise. When this tool is used tubing can be cut in half the time required by old methods and a far better job results. No. 94-F Tube Cutter, each \$2.50



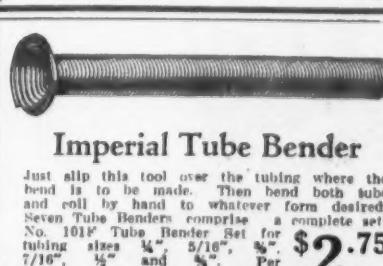
Imperial Flaring Tool

Gives the proper flare and taper to the tubing for making up joints. A perfect flare means a tight joint and this tool does the work in least time and with utmost simplicity. No bone dies, no vise necessary. No. 95-F takes tubing sizes $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{5}{16}$ ", $\frac{3}{16}$ ", $\frac{1}{8}$ ", $\frac{5}{32}$ ", $\frac{3}{32}$ ", $\frac{1}{16}$ ", $\frac{1}{32}$ ", $\frac{1}{64}$ ", each \$3.00



Imperial Refacing Tool

This new tool insures against leaks caused by S. A. E. couplings that do not seat properly. In use, the coupling is inserted into the correct adapter, then a few turns of the five-fluted hardened steel refacer produces a faultless seat of correct size and taper for a tight and leak-proof joint. No. 100-F Refacing Tool with adapters for sizes $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{5}{16}$ ", $\frac{3}{16}$ ", $\frac{1}{8}$ ", $\frac{5}{32}$ ", $\frac{3}{32}$ ", $\frac{1}{16}$ ", $\frac{1}{32}$ ", $\frac{1}{64}$ ", Per Set \$3.75



Imperial Tube Bender

Just slip this tool over the tubing where the bend is to be made. Then bend both tube and coil by hand to whatever form desired. Seven Tube Benders comprise a complete set. No. 101F Tube Bender Set for tubing sizes $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{5}{16}$ ", $\frac{3}{16}$ ", $\frac{1}{8}$ ", $\frac{5}{32}$ ", $\frac{3}{32}$ ", $\frac{1}{16}$ ", $\frac{1}{32}$ ", $\frac{1}{64}$ ", Per Set \$2.75



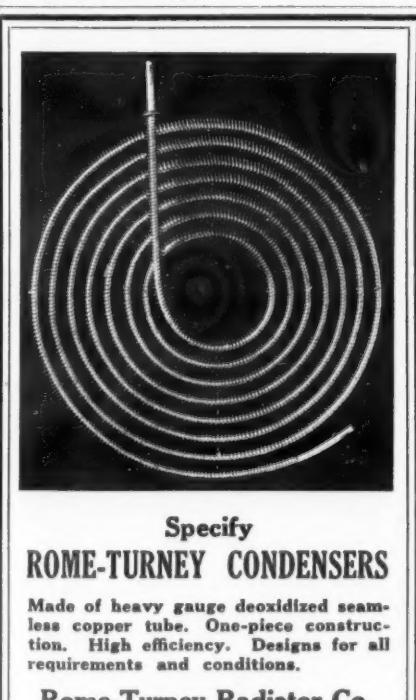
Imperial Brass Forgings

Accurately made to meet all the requirements of leading Refrigerator Manufacturers. Will not leak. Let us quote on your requirements.

Send for New Catalog

The Imperial Catalog, just off the press, illustrates and describes the complete Imperial line of Brass Forgings, Valves, Manifolds, Tools, etc. To become acquainted with the newest and most modern, send for this catalog today. It's free.

THE IMPERIAL BRASS MANUFACTURING CO. 565 SOUTH RACINE AVE. CHICAGO, ILL.



A New A-E-Co. Product

Watch for announcement in December 17 issue of interest to all refrigerator manufacturers and to all manufacturers and dealers in ammonia and methyl chloride machines.

American Engineering Company
2420 Aramingo Avenue
Philadelphia, Pa.

DIRECT MAIL TELLS OF MAJESTIC'S ARRIVAL

Dallas, Tex.—No time was lost by the Will A. Watkin Company in letting the populace of Dallas and environs know that the Majestic refrigerator had arrived in town. Two direct mail letters were immediately sent to many prospects inviting them to visit the showroom at 1207 Elm St. and 1206 Pacific Ave., where the Majestics were on display.

Will A. Watkin is president of the company that bears his name. A. Ragland is vice-president and Robert N. Watkin, secretary. Besides merchandising Majestic refrigerators, the company carries a line of pianos, radios and pipe organs.

TRUPAR INSTALLATION FOR TEXAS CLUB

Mission, Tex.—An unusual electric refrigeration installation is reported by Russell Howarth, Texas representative for Trupar Manufacturing Company, who recently sold a wide variety of Trupar equipment to the Nick Doffing Company's Golden Groves Club House.

"This clubhouse is one hundred per

Refrigerators

Tested • Both Ice and Mechanical

Refrigerators Tested for Performance in our Refrigerator Laboratory. This service is unique for the Manufacturer or Distributor.

We invite your inquiries.

George B. Bright Co.

Refrigerating Engineers and Architects
2615 12th Street, Detroit

cent Trupar," said Howarth. "They have a deep well head with a 1½ h. p. motor which supplies the club with water from a depth of 230 feet. A Trupar pump delivers the water from this depth.

"We installed in the large kitchen ice box a No. 53-G Trupar-Larkin coil connected with a No. 250 compressor. Formerly they used from 200 to 300 pounds of ice each day, which they had to haul 11 miles.

"Mr. Doffing also ordered a special ice cube and water-cooling installation. We installed a No. 52 cabinet with 4-A units, with a water tank below them."

ADMIRABLE SHEET

"I wish to congratulate you on the growth of your paper and the excellent assistance which your admirable sheet gives to the men on the 'firing line'."

W. H. Taylor, International General Electric Co., Inc., Mexico, D. F.

NEW QUARTERS

Poughkeepsie, N. Y.—John VanBenschoten, Inc., agent here for Kelvinator, has opened a new showroom at 18-20 Catherine Street.

Precision Built VALVE Needles VALVE Seats VALVE Mechanisms

Four years of satisfactory service to the industry

Buerk Tool Works 42 Pearl St. Buffalo, N. Y.

Wagner motors are quiet—quiet while starting, quiet while running, quiet while stopping. That is one of the reasons why Wagner motors are preferred by refrigerator manufacturers. » » » Quiet operation involves balancing of rotors dynamically as well as statically, balanced electrical design, and shock-absorbing materials. » » » To insure dynamic balance, both ends of each Wagner rotor are supplied with flanges or other devices to which balancing weights are attached as required. Each Wagner rotor is electrically balanced, with slots skewed to reduce magnetic hum. To

To attach the combination gauges outfit you connect the line C to the discharge shut-off valve on the compressor as you would the single gauge. Attach the line D to the gauge connection on the suction shut-off valve on the compressor. Close both valves G and H on the tee valves, purge out the lines on test for leaks, then set the compressor shut-off valves in the regular operating positions with gauges attached to take the readings.

As can be seen in the diagram, the valve stem in the tee valve G and H seats at the opening near the ¼" brass tee F, thus the opening from the lines up and into the gauges are always open and both the pressure gauge and the compound gauge are always recording.

If gas is to be added to the system,

and as we know it is always safer to add it through the low side, you connect a line from the connection E to the refrigerant container and purge out the line. Open the valve on the container, and as can be plainly seen, we have gas right up to the tee valves. Then, by opening the tee valve G while the machine is in operation, gas will be drawn from the container through the line, through the tee valve G, down and into the low side of the compressor. During this operation both gauges are recording, which is very necessary in adding gas. When enough gas has been added, close the valve on the container. When the compressor has withdrawn the gas out of the connecting line, then close the valve G and remove line and container.

To add oil, use the same procedure except connect the line to E and run it down into the oil container, purge the line, draw a vacuum on the compressor, open the valve G and oil will be drawn into the compressor. When enough oil has been added, close valve G and remove connecting line from E.

Setting the Pressure Switch

To set a low pressure switch when the coil is cold and you want pressure on the low side to set the cutting in point, install a flare nut and dead end on the service connection E and tighten. Open valve H. This permits pressure from high side into tee F, then open valve G slowly and let the pressure build up on the low side until it has reached the point on the gauge B that you want to set the cutting in on the switch. Make the setting, checking two or three times. When you have the desired setting, close valve H, the compressor withdrawing the pressure out of the tee F, then close valve G. This way you save the time it might have taken for the pressure to build up.

To build up pressure on the low side to test for leaks, proceed as in the last operation, letting the pressure build up to 35 lbs. on gauge B. Then test for leaks.

If the operating head pressure is too high and you want to purge the air or refrigerant from the condenser, attach a line to service connection E, and if purging SO_2 run this line into lye water, stop the machine, let it cool down, then open valve H slightly until the pressure is reduced to the desired point, close valve H and remove discharge line from connection E.

After anyone or all of the above operations have been completed and you have checked the operation of the machine, the combination gauge outfit can be removed and you feel pretty certain that your job has been thoroughly serviced and you can leave it with a satisfied feeling.

HELPFUL SERVICE HINTS

By Frank W. Gray

ALTHOUGH commercial cooling units with alcohol or calcium brine contents seem to be passing out of vogue for small machine installation, a great many of such systems are still in use from installations of previous years. Such systems should be periodically inspected for brine leakage. In many cases rust has eaten through the outer casings of such cooling units, causing extensive meat and food spoilage, particularly where alcohol brine has been used.

The new Mueller dual temperature valve for commercial installation has proven very satisfactory where cooling units delivering various temperatures are required in one system. The Mueller valve has a positive snap action, and operates on adjustable back pressures of from zero to twenty pounds. Where ice cream cabinets or water coolers are included in commercial multiple systems the valve will be found very useful.

Over-size cooling coils should be used in commercial installation wherever air circulation will permit. The larger the vertical surface area on the cooling coil, the higher the temperature at which the coil may be operated, thus minimizing the formation of frost which decreases the cooling efficiency.

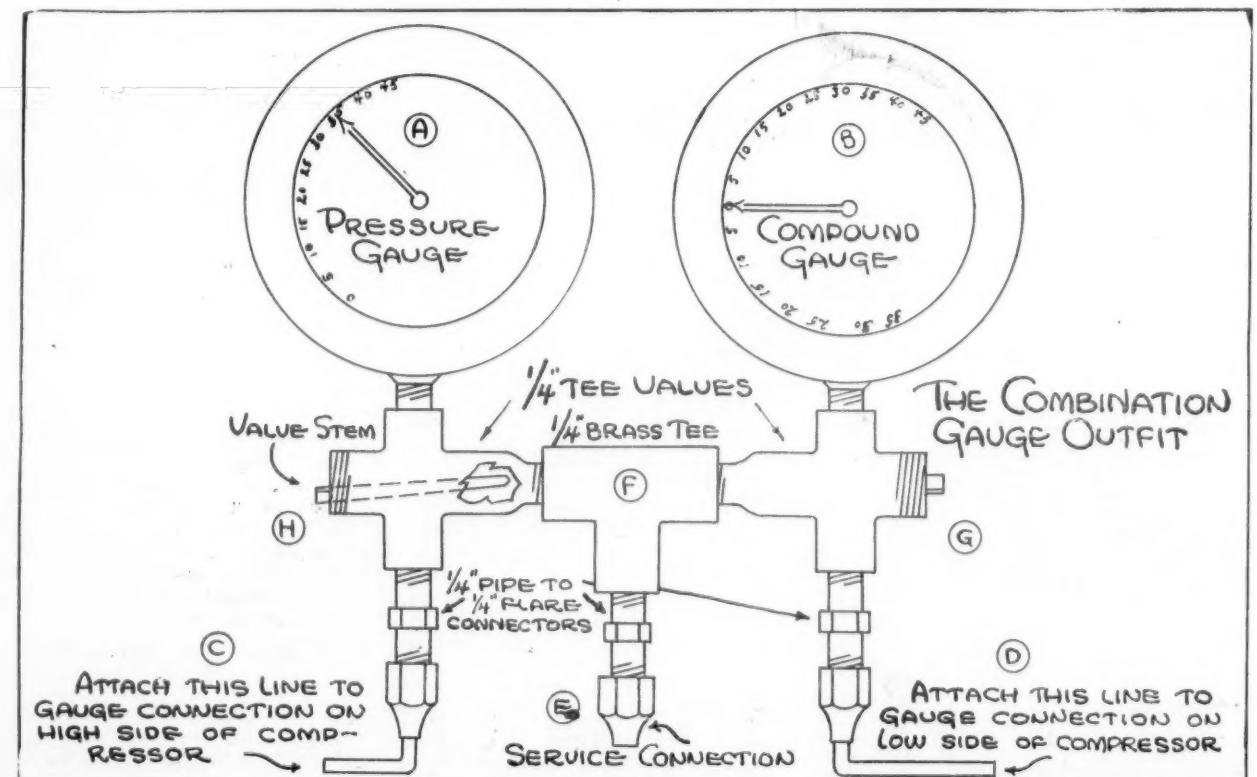
When evaporators become oil-logged in commercial or apartment house installations, the simple expedient of holding a cloth soaked in hot water under the coil for a few moments will effectively boil out the surplus oil.

It is estimated that a suction draft from the motor fan on a condensing unit is at least 10% more efficient in condensing the refrigerant than an outward draft. One reason for this is that the outward draft is drawn across the electric motor which develops considerable heat in running.

A great deal of commercial electric refrigeration equipment, installed a few years ago, is now passing out of date. Service men who are alive to sales possibilities can often originate sales for new equipment when making service calls to such installations.

Certain large refrigeration agencies have found it to their advantage to employ a service salesman in their service departments, who makes all customer contacts, adjusts all complaints, and specializes on selling service and, incidentally, a great deal of new equipment.

Combination Gauge Outfit



Attention Sales Managers and Engineers

One of our associates has just completed a report on a six weeks' actual sales canvass, selling low temperature cases to the independent merchant in twelve cities within a close radius of Chicago.

The report covers the following matters:

1. The best prospect for equipment and how to find him.
2. The type low temperature equipment that will sell now.

If you are interested in the above write us—no obligations.

Associated Refrigeration Engineers—Engineering Bldg.
205 W. Wacker Drive, Chicago, Ill.

WE BUY
New and Used ELECTRIC
REFRIGERATORS
In Any Condition
Phone, Write or Wire All Details,
Type of Motor, Size of Box, Etc.
KASKEY & QUINN, Inc.
525 Arch Street Philadelphia, Pa.

further insure quiet operation magnetically, great care is taken to obtain a uniform air gap; as a final machining operation, the inside diameter of the frame into which the end plate fits, is bored concentric with the inside diameter of the stator. Brushes in each Wagner repulsion-induction motor are lifted off the commutator during running to eliminate brush noise. And for ultra-quiet operation, there's the Wagner rubber-mounted motor, silenced with rubber bushings between motor frame and cradle base. » » » For quiet motor operation, specify Wagner. » » »

Wagner
Electric Corporation

400 Plymouth Avenue, Saint Louis, U. S. A.

MOTORS TRANSFORMERS FANS
SINGLE-PHASE DISTRIBUTION DESK WALL
POLYPHASE POWER CEILING
DIRECT CURRENT INSTRUMENT VENTILATING

S431-1YB

COPELAND RAPID TRANSIT MAKES CUSTOMER HAPPY

Mt. Clemens, Mich.—Recently the Carnegie Electric Company, Copeland dealer in Cleveland, closed a sale for a market installation at Mentor, Ohio, located thirty miles away.

The new shop was preparing for a formal opening the following day. The installation called for a Model R condensing unit and the Carnegie Electric Company did not happen to have one on the floor.

When a telephone S. O. S. call reached Mt. Clemens at 2:30 in the afternoon, H. M. Roche, who handles unit orders, placed a Model R on the rear seat of his sedan—of well known popular make, Model A. At three o'clock he left the factory and made delivery to Carnegie at 9:25 P. M.

The Model R was transferred to the waiting service truck and speeded on to Mentor, thirty miles away. The Carnegie service men had the installation completed and the new walk-in box cooled and ready for the formal opening of the market.

Roche was back at his desk at 8:30 the next morning, after a drive of 543 miles. Roche declares that "It wasn't so bad—in fact, I rather enjoyed the ride."

BOSTON KELVINATOR MEN CELEBRATE VICTORY

Boston, Mass.—The local branch of the Kelvinator Sales Corporation met at the Hotel Manger, November 8, to celebrate its victory in the Kelvinator sales contest held in June. The territory for this contest included the whole country, and the success of the Boston contingent was a noteworthy achievement.

Harry Troutwine was master of ceremonies. Company representatives from

the Detroit factory were present and included: J. S. Sayre, general sales manager; Godfrey Strelinger, manager of branches; E. A. Seibert, national service manager; and H. G. Perkins, personal representative of President Mason.

Mr. Sayre was formerly New England manager of the company and the affair recalled old times. The evening was given over to a good feed and a good time. Professional vaudeville acts were the spice of the program.

Guests of the evening included Richard Lincoln and W. A. Blatchford, of the Boston Edison Company; Harry Smith, of Brockton Edison Company; and A. J. Williams, of the Abington (Mass.) Electric Light & Power Company.

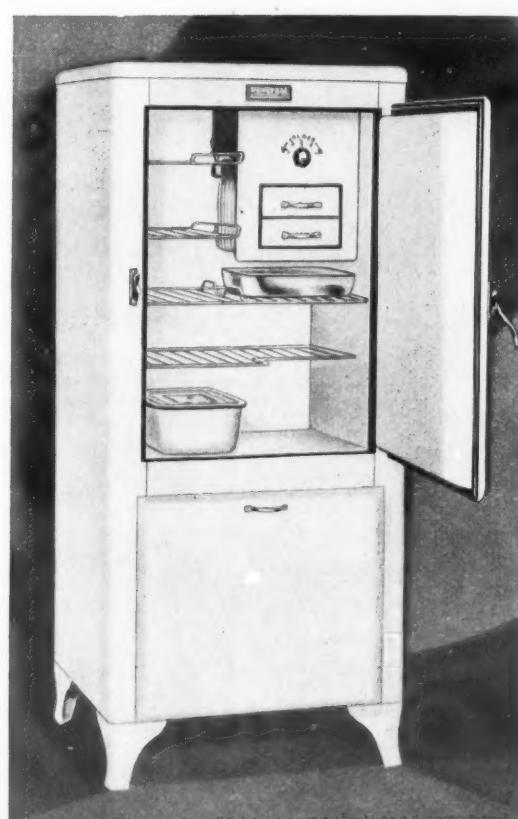
JOHNSON-GREZEL FORM COMPANY

Manchester, Conn.—Rudolph Johnson, formerly head of the Johnson Electric Shop here, and a dealer in electric refrigerators, has formed a partnership with Alfred Grezel, plumbing and heating contractor. The new business will function as the Grezel-Johnson Company with offices and store on Purnell Place. The store will be enlarged and a new front added with a 25-foot show window. The company will deal in oil burners, electric refrigerators, supplies and conduct a plumbing and heating company.

TO HANDLE ICE-O-MATICS

Springfield, Mass.—The Oil Heating & Refrigeration Company has been formed with offices and display room at 89 Dwight St., to distribute the Williams Ice-O-Matic refrigerator in conjunction with the Williams Oil-O-Matic Heater and Dist-O-Stove. Joseph C. Riga is president and J. J. Fitzgerald is treasurer.

The UNIVERSAL Line of Cabinets is unusually complete



THE cabinet shown here is the 5 cu. ft. model of the new Universal Line of self-contained Cabinets which includes models of 4, 5, 6 and 7 cu. ft. net capacities. These cabinets have well arranged shelf areas which measure from 8.1 to 12.5 sq. ft., respectively, and possess every desirable feature, including the Refresh-O-Pan, cold control, porcelain interior, massive chromium-plated hardware, one rubber tray and 5-inch legs. These new models are fitting containers for the ever sturdy, dependable and economical Universal Refrigerating Units and are being offered at unusually attractive prices as leaders to a complete line of self-contained and remote cabinets for household and commercial installations.

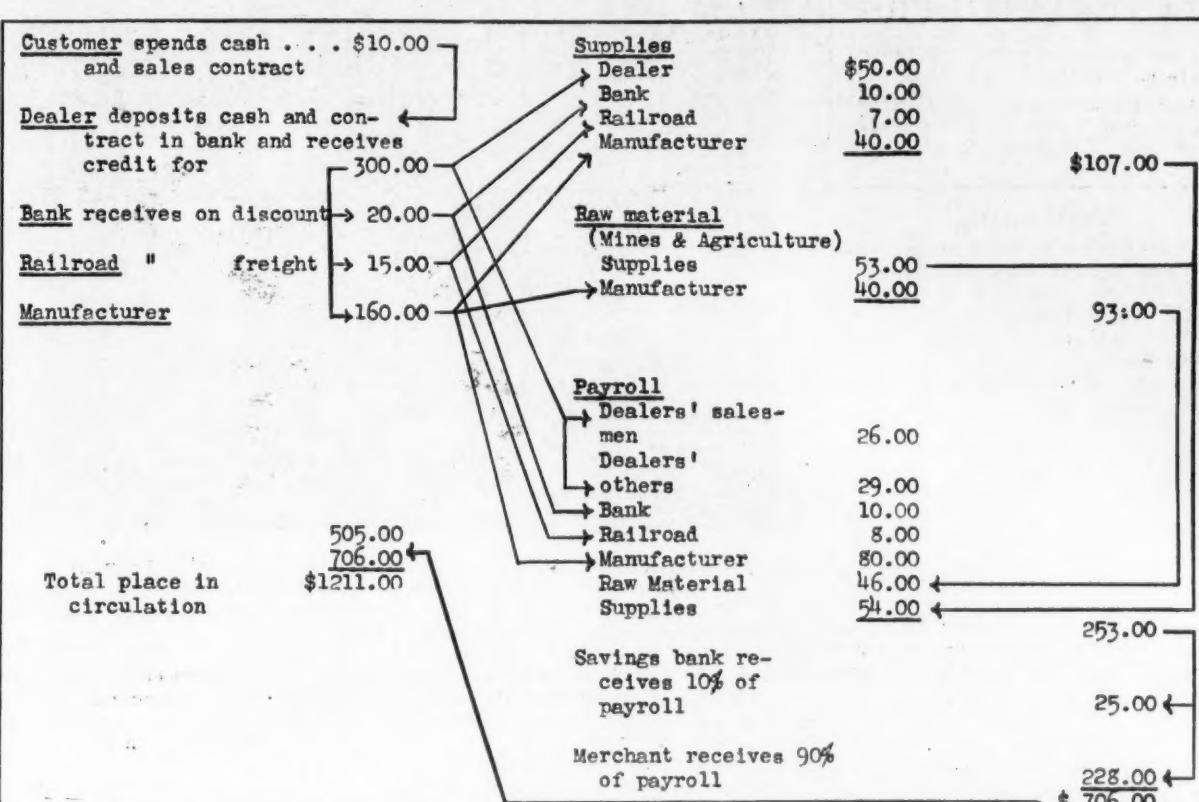
Complete information on request.

Universal Cooler Corporation

Detroit, Mich.

Windsor, Ontario, Canada

What a Ten Dollar Bill Will Do



One \$10 payment puts \$1200 into circulation.



Boost your Christmas Sales

Suggest FLEXOTRAY to women customers . . . a real man's present

FLEXOTRAY wins instant popularity with men everywhere. It makes an ideal Christmas suggestion to women who are puzzled about what to buy for their men folks.

When a man wants ice cubes, he wants 'em quick. When his friends drop in and he goes to the kitchen for ice cubes, he abominates being splashed with water or hammering at an ice cube tray.

Explain to your women customers that FLEXOTRAY will release ice cubes instantly . . . a whole trayful or one at a time . . . without melting or splashing. For ice cubes do not stick to FLEXOTRAY. Out they pop, dry, sharp-edged and several degrees colder than those you melt out of metal trays under a faucet . . . into the kitchen sink.

Explain that FLEXOTRAY is made for long life and hard service . . . of purest crepe rubber . . . tough and flexible.

TO DEALERS

Don't let any woman Christmas shopper leave your store without suggesting FLEXOTRAY as the ideal man's Christmas present. Put in a window display of Christmas packages of FLEXOTRAY. This will attract attention and promote the sale of not only FLEXOTRAY but will also bring in refrigerator prospects—and don't let your refrigerator salesmen make calls without taking a FLEXOTRAY along. It opens doors, makes them welcome and leads to sales.

FLEXOTRAY can be obtained from manufacturers, distributors and dealers who handle most mechanical refrigerators. Or you can write the manufacturer of your refrigerator or

THE INLAND MANUFACTURING CO., DAYTON, OHIO



BETTER ICE CUBES . . . EASIER

LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other material recently issued.

Manufacturers are requested to send copies of new trade literature to Electric Refrigeration News.

Detroit Forging

In connection with the introduction of Defco drop forged conveyor chain, the Detroit Forging Company, Detroit, has issued a highly illustrated catalog that is full of valuable information for buyers and users of conveyor chain. The catalog will be sent free upon request.

Iceless

The Iceless Refrigeration Accessories Co., 2401 Chestnut St., Philadelphia, Pa., has just issued its latest catalogue, quoting prices and specifications of refrigeration parts and equipment carried in stock. Belts, gaskets, compressor replacement parts, motors, fittings, valves, tubing, replacement parts for ice cream cabinets, testing instruments, controls and service tools are listed in the catalogue.

Roper

A 104-page book of interest to the trade has just been published by the Geo. D. Roper Corporation of Rockford, Illinois. Pumps for handling liquids used in the different manufacturing processes, in supplying water or solution to refrigerating plants, pumps to handle all sorts of liquids around the plant are fully illustrated and described.

REQUESTS FOR INFORMATION

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Sylphonite

Query No. 393—"Can you inform me of a source of supply for sylphonite. It is a metal which comes in bar form and is used in the manufacturing of screws."

Send for the Serviceman

Evansville, Ind. — When Ernest (Shorty) Pate, service representative at the factory of Servel Sales, Inc., departed to answer an urgent service call, little did he know of the excitement that was to crop up.

It happened that the beautiful drinking fountain equipped with Servel refrigeration and presented to the Evansville zoo by the Kiwanis Club, ceased to deliver cool, refreshing drinks to the visitors. The refrigerating machine had refused to function and a hurried S.O.S. was sent to the Servel factory.

To Ernest Pate fell the task of servicing this job. Taking the necessary tools, he made a hurried dash to the zoo, where he met the keeper at the fountain. During the course of the conversation, the keeper revealed to Mr. Pate that the fountain was not the only trouble that confronted him. The groundhog at the zoo, it seems, had an overdose of wanderlust and took to the open spaces. The search for the runaway proved to be futile and Mr. Keeper was at a loss, not knowing where the young critter had taken up his abode.

Mr. Pate offered his sympathy and



The Fountain that Harbored the Groundhog

PATENTS
Searches, Reports, Opinions by a Specialist in REFRIGERATION
H. R. VAN DEVENTER
Solicitor of Patents, Refrigeration Engineers
342 MADISON AVE., NEW YORK

Attention Service Managers

When you need mechanics, installers and service men—men practically trained in Electric Refrigeration work—call on us. We can furnish qualified graduates to meet your specifications. No charge to you or to them. Write, wire or phone.

THE NATIONAL TECH
Where men learn by doing—not by correspondence
902 Ulmer Bldg., CLEVELAND, OHIO

Cigar Makers Use Refrigerators



Tampa, Fla.—Cigar makers have turned to electric refrigeration to help produce a better product and reduce overhead. Frigidaire coils and compressors in a large storage box in the Corral, Woditsky & Co. at Tampa, Fla., guard the expensive Havana wrapper against climatic damage. Frigidaire water coolers provide cooled drinking water for more than a thousand workers in this factory.

Havana wrapper, used for the outside of expensive cigars, is of a special grade. It is the best of the Cuban crop, imported under a high tariff for use in the 32,000,000 hand-made cigars turned out each year in this factory. If the Havana wrapper leaf dries out, it breaks. If it is moistened with water, it stains and gets tender. So valuable is the wrapper leaf that workers obtain it by requisition only.

Unused wrapper each night and on week-ends goes into this large storage

box, equipped with Frigidaire fin coils. A special humidifying arrangement insures a constant moisture content in the box.

Valentine Garcia, Spanish salesman in Tampa for Byars-Forgy Refrigeration Company, Inc., Frigidaire distributors, made this sale. Garcia spends all his time contacting Spanish and Cuban prospects.

HARDY SAILS FOR ORIENT

New York, N. Y.—Plans to break into the huge market for electric refrigeration among the better class of natives in India, will be made by H. H. Hardy, assistant foreign manager of Frigidaire Corporation, who sailed from New York November 27 for an extended trip through the Orient.

Up to the present time, Frigidaire foreign department heads point out, sale

of Frigidaire equipment in India has been sold principally to foreign residents of the country.

Hawaii, China, Manchuria, Japan, the Philippines, Federated Malay States, Java, Burma, Ceylon and India are on Mr. Hardy's itinerary.

TWO DISTRIBUTORS TO SELL TEMPRITES

Detroit, Mich.—The Kelvinator Electric Company, of Lubbock, Texas, has recently been set up to handle Tempnite distribution in its territory.

Tempnite distribution has been taken on by Werley's, 28 North 6th Street, Allentown, Pa., Kelvinator representatives.

MISCELLANEOUS

REFRIGERATION Sales Managers and Salesmen, Take Notice. A wonderful opportunity to go in business with no investment. All you furnish is your services. You organize your own sales force. You will receive the commissions on all sales made by you or your salesmen. You pay salesmen whatever you want. We will furnish a complete line of new Servel commercial machines, display, advertising, installation, service, engineering, and finance all deals. All you finance is your sales force. Write or call Pittsburgh Refrigeration Company, 1115 Penn Avenue, Pittsburgh, Pa.

MANUFACTURER will sell at very attractive prices high-grade Refrigeration Compressors and Expanders. Suitable for domestic and small commercial purposes. Address Box 299.

FOR SALE: We will sell at a very attractive price whole or parts of the following: Larkin Coils, Zerozone Coils, Ebcos Water Cooler and Zerozone Electric Signs. For list and prices of materials communicate with THE ELIN COMPANY, 330 Washington Street, Newark, New Jersey.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance—Positions Wanted—fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion \$3.00, additional words six cents each. Three insertions \$8.00, additional words sixteen cents each.

POSITIONS AVAILABLE

COMMERCIAL Sales Manager—Kelvinator distributor in prominent Eastern city has opening for commercial sales manager. Must have ability to organize and successfully direct extensive operation. Excellent opportunity. Applications considered strictly confidential. Give complete history. Box 298.

POSITIONS WANTED

SERVICE and Installation Manager available. Three years' electrical experience. Seven years with one Frigidaire dealer; has working knowledge of other machines; also experience in Household and Commercial Sales. Student Utilities Engineering Institute, Chicago. References supplied. Box No. 295.

REFRIGERATION Engineer, M. E. graduate, 10 years' experience in factory and field as sales engineer, service manager and commercial sales supervisor. Capable of organizing and training installation and service department or commercial salesmen. Available at once. Will go anywhere. Box 296.

DISTRICT Sales Manager solicits negotiations with reliable manufacturer of mechanical refrigeration to represent them in establishing and developing distributorships and dealers. Can furnish proof of outstanding success in present connection and can offer exceptional proposition for Metropolitan area. Will also consider other locations. Address Box 297.

TEMPRITE Duplexing System

Opens a Vast New Field For Profitable Restaurant and Fountain Business . . .

Every Restaurant, Cafe, Cafeteria, Soda Fountain and every other business that has refrigerating equipment installed is a prospect for a Tempnite water or beverage cooler. You can duplex Tempnite coolers with other low temperature refrigerating equipment without the use of two temperature valves. Tempnite Coolers are completely equipped with a temperature control which operates independent of the compressor control.

Here is a vast, new field of business for you. Those firms you have been unable to close because of the high cost of older style water cooling equipment, will be immediately interested in Tempnite Coolers with their low initial and installation cost.

The installations you have already made in restaurants, etc.—go back to them now and show them how at a nominal cost they can have the very latest in water cooling equipment without the cost of expensive fittings, valves, etc.

The larger meat markets, grocery stores and other business houses will also want drinking fountains to make their stores modern and attractive to their customers.

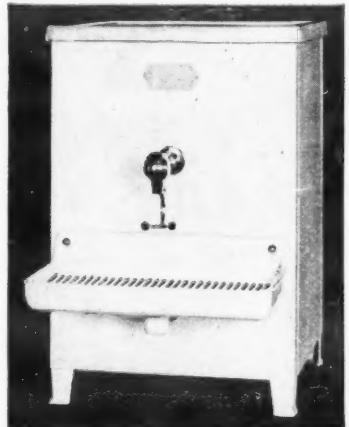


Model S40W Tempnite unit. This, or other size units, can be installed with cabinets already in use, used remote, or be duplexed with other equipment.

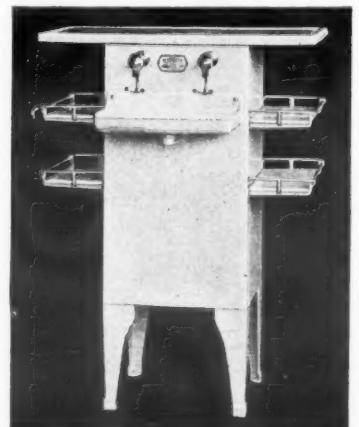
Many already have compressors large enough to handle 2 or 3 peak water cooling loads per day.

Being able to duplex Tempnites opens up this fertile field to Tempnite dealers. Tempnites alone can be used in this manner. Right now is the time to modernize older restaurants and other business plants with Tempnites. You can easily make these extra profits.

This opportunity for additional sales lies right before you—you have the equipment, the price is right, and the time to get this business is NOW. If you are not already familiar with the entire Tempnite line and its possibilities, write or wire at once for full information on how to make extra profits with Tempnite.



Countertop cabinet. This style can be had with capacities of from 30 to 80 gallons of water per hour.



Cabinet with two push-back glassfitters and shelves for glass storage on each side. Many other styles to choose from.



This system of duplexing Tempnites is only one way that Tempnite helps dealers handle more business profitably. Write us for other ideas on other fields. Unless you know the entire Tempnite story you are probably missing a great deal of extra business you might as well be getting.

LIQUID COOLER CORPORATION

6527 Russell Street

DETROIT, MICHIGAN

Western Coast Distributors: Refrigeration Products Ltd., 1110 North Alameda St., Los Angeles, Cal.

Refrigerated Food Section

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

In Three Parts—Part 2

The business newspaper of the refrigeration industry

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TWO DOLLARS PER YEAR

ENTHUSIASM

Of Muncie Merchants Helps Sale of Frozen Meats

Mechanical Refrigeration Now Used in Chain Stores

Muncie, Ind.—Sally Lee Frigid Meats, frozen and packaged by the Indianapolis Abattoir, Inc., have been on sale in this city, and incidentally nowhere else, for nearly four months. At present they are being sold in seven stores which differ in character. Chains and independents are represented, and both display remarkable enthusiasm when the Frigid Meats are mentioned.

Typical of the stores selected for the experimental sales campaign are the latest addition to the list, the Piggly Wiggly store at Charles and Kilgore Streets, and one of the original group, the store owned and operated by J. E. Hayes at 411 North Elm Street.

The Piggly Wiggly store has an especial interest for refrigeration men because it is the only one of the seven that has received the newer type of equipment. Mechanical refrigeration, in this case Frigidaire, has taken the place of solid carbon dioxide which was tried out in the early stages of the campaign and which is still being used in six of the stores pending the completion of new equipment. This Piggly Wiggly store has been open less than two months. It occupies premises which have housed an independent neighborhood store for a number of years, and Jack DuMouchel, the little Frenchman in charge, has had to take his time about imposing strict cash-and-carry methods upon his customers. They are used to being waited on, but he is gradually training them to wait on themselves.

Training the Customers

This training extends to the meat department, and the refrigerated case in which the Sally Lee meats are kept at a temperature of about 8 degrees Fahrenheit, carries a sign which reads: "Serve Yourself to Sally Lee Frigid Meats." The case has eight compartments, and on the cover of each compartment is a slip giving a list of the products below. A price list on the wall makes it easy to pick out a package of quick-frozen meats, glance at the weight which is plainly marked, and so ascertain the cost of the particular package selected. Mr. DuMouchel says that about 30 per cent of his customers are buying meats in this way. The others he or his assistants have to wait on, but the same proportion holds good throughout the store. Those customers who take their own groceries and canned goods from the shelves are glad to pick out their meats without help.

The serve-yourself principle as applied to quick-frozen meats is getting its first real tryout in this store, unless someone who has not been heard from thus far, is trying the plan elsewhere.

Although both the extra fine and standard grades of Sally Lee meats may be purchased in this store, the better grade is the leader by a good margin. The variance in price on a leading item, porterhouse steak, is about 17 cents, the standard selling for 41 cents and the extra fine for 58 cents. The complete line includes some 37 items, and among the best sellers on the list are sausages, one of the recent additions, and hamburger steak, which has been a leader right from the start. Both these products are of a type which the housewife generally moulds into patties or other individual portions before cooking, a procedure which is naturally impossible with meat frozen hard into a solid mass. It was thought that this fact might hinder their sale, but that has not been the case. Although no instructions in regard to cooking them have been given out with the packaged meats, Muncie housewives have been quick to adapt themselves to the situation.

One afternoon recently Mr. DuMouchel was waiting on a customer who wanted to know how to get the hamburger soft enough to mould into individual portions. Before he had a chance to reply, a woman who was waiting for him spoke up, and advised the first customer to put the meat right in the pan, wait until it became soft, and then cut it up into smaller portions while the cooking continued. Mr. Du-

Intimate Knowledge of Industry Marks Snyder Testimony

MORE intimate details of the rapid development of quick frozen foods, especially quick frozen meats, are brought out by the testimony of Frederick S. Snyder under cross examination in the packers' consent decree hearings in Washington. This testimony, so far as it relates to quick freezing, is printed on Pages 2, 3 and 6 of this issue of the Refrigerated Food section. Among other things, Mr. Snyder tells of the new Birdseye plate freezer, now in experimental use in

Gloucester, which promises to become an important factor in the new field. As he did in his direct examination, which was printed in the November 19th Refrigerated Food section, Mr. Snyder expresses firm faith in the possibilities of quick frozen foods. He not only expresses this faith but backs it up with clear cut reasoning. A third and final installment of Mr. Snyder's testimony will be printed in the next issue of the Refrigerated Food section, which will be published on December 17th.

Bakery Uses Refrigerator For Variety of Purposes

Cooling of Products Becomes Big Factor in Modern Plants

San Francisco, Calif.—The need for refrigeration in the modern bakery was convincingly stated before the members of the Northern California branch of the American Society of Baking Engineers at a meeting on Nov. 19th in the Clift Hotel. The speaker was W. W. Whitehead, who is in charge of the bakery

service department of Standard Brands of California, and he emphasized his belief in the necessity for refrigeration by discussing both sides of the question in the earlier part of his address. He brought out, rather than concealed, the arguments against refrigeration in the bakery, and then proceeded to prove in conclusive fashion just why an up-to-date bakery must have refrigeration as part of its equipment.

After discussing the methods common among bakers before the real possibilities of refrigeration were realized, Mr. Whitehead said:

"This old method has been used for some time, more for a matter of convenience, rather than because of any difference in the quality of the goods—until the idea of actually making up pieces, placing them on the pans, and then placing them in a refrigerator at a temperature of 40 degrees and allowing them to stand 12 to 24 hours, was thought of.

"The dough ordinarily is made up in the afternoon or evening before needed, and fermented to within about 30 minutes of its usual time, placed in a refrigerator at a temperature of about 40 degrees, and taken out when needed, or as needed, up to 24 hours. When any longer time was allowed, that is, any appreciable length of time added to this, the goods would lack color, lack flavor, and lack proper oven development.

Ageing Process Continues

"When a bulk of dough is placed in the refrigerator, it takes about 30 minutes or so for it to react to the lower temperature; therefore, there is a slow ageing process going on during this time, and in view of the fact that the temperature is not equalized throughout the dough for some time, there is a chance of non-uniformity in the finished product, for the reason that fermentation is still carried on for about 30 minutes or so after the dough has been placed in the refrigerator. This time, therefore, should be taken off the regular fermenting period, but this method will not produce any better results either in the plain dough or a rolled-in dough when it is placed in the refrigerator in a mass.

"Of course, there is the matter of convenience to be considered. A great many wholesalers, some retail buyers—and I know of two large wholesale bakers who are using this method—make the dough in the afternoon or the evening, before it is needed, and the following morning make up the goods as usual.

"This saves the time of making and possibly waiting on the dough to rise. This is convenient for fresh hot goods for early morning trade and again in the afternoon and evening, if they are so desired.

"Rolled-in dough is handled in the same manner but, of course, a rolled-in dough is much better and will produce better results if it is semi-refrigerated; that is, the dough will be placed in a refrigerator between rolls until it becomes light enough to roll again. This hardens the fat and prevents it from becoming runny and oily, especially in hot weather. But when large pieces, say 20 pounds, are refrigerated for 12 to 24 hours, it is a matter of convenience again rather than for any difference in the quality of the finished goods. But, on the other hand, when the pieces are actually made up and then placed at once in refrigeration, at a temperature of 40 degrees, then there will be a difference in the quality of the goods very decidedly in favor of the refrigerated merchandise.

"I have done a great deal of experimenting on this and have watched different methods and the better quality, as I have found, is most marked when the goods are actually made up, or when a rolled-in dough is semi-refrigerated.

"The difference is, when the pieces are actually made up and refrigerated, they respond quickly to the lower temperature, and as the mellowing effect, we might call it, takes place slowly, the goods produced will be more tender, better flavor, better texture. And when

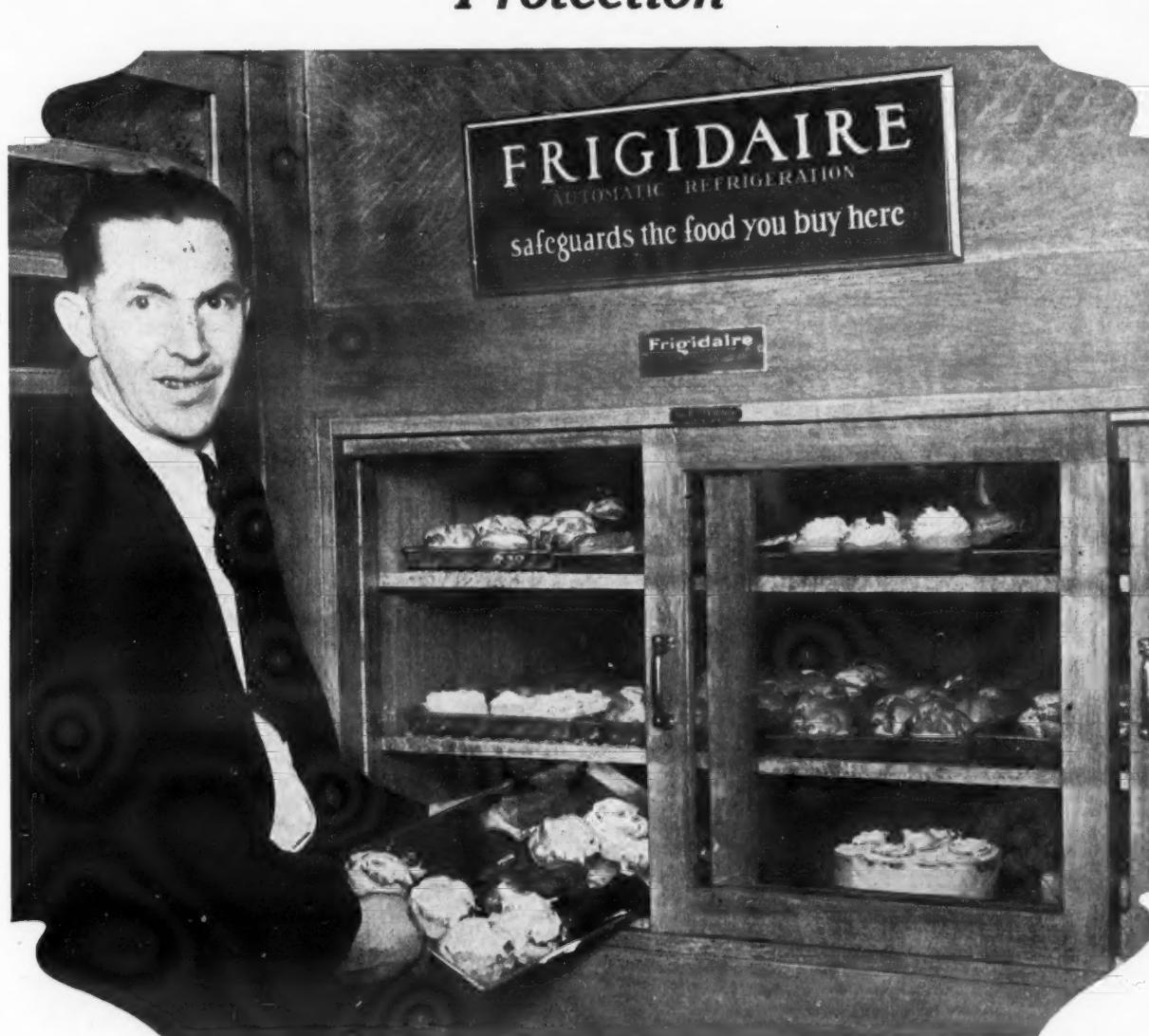
PHILLIPS

Scores Minneapolis Ordinance

Minneapolis, Minn.—Ralph T. Phillips, president of the Puffer-Hubbard Co., interjected a new thought into the unemployment situation recently. He asserted that more than 200 men are kept out of employment by the city ordinance of last February which indirectly retards his company's work in the manufacture of low temperature display cases for packaged meats. The ordinance provides that anyone dealing in fresh and frozen meats must have a large cooling room, meat block, scales, choppers, cleavers and other meat-cutting tools. When the ordinance was passed the company had plans for marketing a display case for quick-frozen meats here, and because of the legislation it could not go ahead with the full sales program. Mr. Phillips said he had been advised by the city attorney's office that corrective measures would be obtained from the City Council, and he had laid the matter before the Manufacturers' Association and other interested groups, which had petitioned the Council to alter the ordinance. In the meanwhile each day the matter is delayed, just so long are men being kept out of employment.

Mr. Phillips said: "The ordinance is class legislation which prevents the gro-

(Concluded on Page 8, Column 2)



In the Polly Ann Bakery, San Francisco, Frigidaire is on guard

BIRDSEYE

To Speak at New York Meeting

New York, N. Y.—Final arrangements for the frozen food meeting to be held on Tuesday, December 9th, by the New York Food Marketing Research Council, have added several names to the list of speakers. Among those whose acceptances have been received since the preliminary list was published in the November 19th issue of the Refrigerated Food Section, is Clarence Birdseye, vice-president of the General Seafoods Corporation, inventor and developer of the "Birdseye process." Mr. Birdseye will speak on "Preparing, Packing and Shipping Frozen Fruits and Vegetables."

As previously announced, the meeting will emphasize frozen fruits and vegetables, thus forming a complement to the June meeting held by the Council, at which frozen meats were the main topic. R. S. Alexander, professor of marketing at Columbia University, will preside.

The meeting will be held at the Home Making Center on the tenth floor of the Grand Central Palace, and will be an all-day affair. A number of frozen products being produced commercially at the present time will be displayed, and an informal luncheon consisting of quick frozen products will be served in the auditorium during the intermission between the morning and afternoon sessions. The morning session will begin

at 9:30 and the afternoon session at 2:00.

The meeting will be open to those interested in the development of frozen foods, but in order to make proper provision for the luncheon, which will cost \$1.00 per person, reservations should be sent at once to Earl R. French, Room 910, 259 West 14th Street, New York. It will be necessary to have these reservations in well ahead of time as a large attendance is expected.

An open forum will be held at the end of each session, at which short speeches (Concluded on Page 8, Column 3)

PORT HURON KIWANIS HEAR ABOUT QUICK FROZEN FOODS

Port Huron, Mich.—Members of the Port Huron Kiwanis Club heard about the new developments in quick-frozen foods at their weekly luncheon Tuesday, November 25. F. M. Cockrell, publisher of ELECTRIC REFRIGERATION NEWS, outlined the quick-freezing process and explained how it differs from slow freezing in the effect upon perishable foods. He also pictured the revolutionary changes in the distribution of food and the buying habits of the public which will probably result from the grading, packaging and freezing of meats, fruits and vegetables which are now distributed largely in bulk form.

(Concluded on Page 8, Column 2)

(Concluded on Page 8, Column 5)

Cross Examination of F. S. Snyder Brings Out His Confident

Long Experience in Industry Adds Weight to His Views

THE testimony which follows is from the record of the cross examination of Frederick S. Snyder, chairman of the board of the Institute of American Meat Packers, in the consent decree hearings in Washington. Nearly all of the material printed herewith relates directly to the future development of quick frozen foods. Mr. Snyder's company in Boston is doing all of the quick freezing of meats for the General Foods sales campaign in Springfield, and he has had an exceptional opportunity to study every phase of the new development.

Questioning on cross examination was conducted by two Government attorneys. Some of the subject matter printed was brought out on direct examination by counsel for the petitioning packers.

Cross Examination

Q. With reference to this quick-freezing food process: first, with reference to the equipment necessary in the manufacture of these food articles, for instance, at packing plants. Is that a substantially different equipment from what is used now in freezing or chilling meats at packing plants?

A. It is not different in holding, but different in the original preparation.

Q. Not different in what?

A. Not different in holding it after it is processed; that is, the freezing or the storage plant would be the same, but the machine it was put through would

be different and the freezing is different from the present equipment.

Q. Is it a more complicated machine? A. It is a totally different machine. You use the same apparatus which would produce cold to operate a freezing room to produce cold to operate a freezing machine. The difference comes in direct contact as compared with air contact, on a thin item, I think, as between brine immersion of, say, 29 degrees minus, or compared with putting it in ice, the freezing is about three times as fast as with the other.

Q. Is this the approximate temperature that is necessary for this quick-freezing process?

A. From 29 to 50 degrees minus. The CO_2 machines run from 45 to 50. The machine that is operated by buses will run from 29 to?

Q. Is this equipment necessary for the preparation of food in this manner at the plant of manufacture more expensive than the equipment now used in meat packing; that is, for the preparation of a similar quantity of food?

A. No comparison can be made in that way, because it is just an additional machine; it is a facility to perform a particular service. The cost of operating that facility is low. Principally with respect to freezing alone, and including the depreciation of machinery itself and all material equipment, and so forth, it would not exceed three-fourths of a cent per pound for the mere freezing process. The cost of paper and boxes and the labor of cutting, and so forth, would be additional to that.

Q. Are you able to estimate what difference there would be in the packer costs in preparing meats by this process at the time he puts them on the market, at the time they leave his hands, as compared with the way he puts them on the market now?

A. It would increase the cost. For example, a carload of beef subject to the process would have an added cost, but the total cost of that carload of beef, plus the complete process of freezing and packaging and cutting, and everything incident to it, would make it possible, in view of the economies in the way of savings which would result in freight and sending out less material, exclusive of the waste; that is, economies plus that of the superior value that they get out of the material left behind, will make it possible to retail that article, including the cost of retailing it under the grocery system, and at as low or a lower price than obtains now.

Q. Going back to my question, you say the cost as it leaves the factory would be greater?

A. Necessarily.

Q. Substantially greater?

A. It would be greater because the cost of freezing would add three-fourths of a cent per pound, but the operating cost beyond that.

Q. I am not dealing with that; I am dealing with the cost as it leaves the plant. You say it would be three-fourths of a cent per pound?

A. For freezing alone. To that you must add the cost of cutting and packaging and the paper that you use and the shipping containers.

Difference In Cost

Q. My question is, what is going to be the difference, approximately, between the packer's cost today on a carload of beef as he ships and the packer's cost on a carload of beef as he ships it under this quick-freezing process; not beef alone, but a commodity of meat products generally?

A. I cannot give you an answer, because the thing has never been done, but I can say affirmatively that the bridging of the price through from the value of a carload of beef to its retail price will be certainly not greater than it is today, including the whole function.

Q. I am not trying to split it up into its sections. Of course, in order to estimate that it would be necessary to estimate what the cost would be as it leaves the packer, would it not?

A. Yes, sir.

Q. What has that estimate been?

A. Of course, you have a different value on every car of meat that goes out, depending upon its grade.

Q. I am asking what it costs the packer or the manufacturer to put it into the car.

A. Nobody knows. The packer does not know. He buys a carload of beef. That is a known cost. If it is slaughtered and put into the car he can tell what that is. If he buys twenty steers, which would fill a car, and slaughters them, he knows what those twenty steers cost him. If he put that same carload of steers, instead of into a car, through a quick-freezing process and packaged it, of course, that cost would be materially higher; but you do not send the same number of pounds out then in a car. That which you do send out is worth more because you have added to it the labor and service and packages which are to be used in the retail business; and to substitute for the cost of the retail process on a custom basis which now obtains in the ordinary retail market, more is going to be done in the packing house and less in the distributing retail outlet.

Present Cars Suitable

Q. Then in the transportation of this product from the packer to the point of consumption, or the distribution point, can the present refrigerator cars be used for that purpose?

A. Yes.

Q. In other words, after it has been frozen at this very cold temperature it is not necessary to maintain that temperature constantly?

A. No; it is not. In fact, the product itself never reaches throughout that extreme low temperature of the refrigerating medium itself.

Q. Is it necessary to maintain that proportion of storage difference and substantially lower temperature than is necessary for meats today? That is, for frozen meats?

A. No; it is not. Anything that will carry frozen meats today will carry those goods perfectly.

Q. Would the same refrigerating equipment in the retail store that is used today handle this product?

A. No; it would not.

Q. Why?

A. Because the temperatures are not low enough and the refrigerators, even if they were equipped with temperature machinery to produce lower temperatures, are not insulated properly or designed properly for the purpose.

Q. Also I understand it would be necessary to have the refrigerator showcases for proper handling of the products?

A. Such cases will be turned out in large quantities in a few months, which will be somewhat the same as the present cases only below there are sections

which will also carry a zero temperature for the preservation of the products.

Q. There has to be a more adequate refrigerating equipment for those showcases than for the present showcases?

A. Yes, sir.

Q. So to handle this quick-frozen food it would be necessary for retail stores as we now find them to substitute for their present system showcases with new equipment?

A. It would be if they wanted to handle these items.

Q. Would that equipment be substantially more expensive than that which they now use?

A. Substantially less expensive. I think on the average a store could be fitted up for one-half the present cost.

Cost of Equipment

Q. You mean that it would cost less for a showcase and refrigerator equipment to keep the product at this much colder temperature than for that which is not to be kept at such a cold temperature?

A. That does not answer the question, because the present system is to have a refrigerator large enough so that the retail man can bring in a side of beef or a whole steer and hang it up, or some lambs or veal or other raw material with which he works. Sometimes that is large enough so that he does all his cutting inside the refrigerator, so it is a very substantial space that he occupies, and he must have room to move about in there, whether he cuts inside or outside.

Q. Well, this equipment might be more expensive for volume. The volume that he has for his business would be materially—

A. Materially less. The rental value of this added space is very material. I mean the large refrigerator.

Q. He would have to purchase new refrigerator equipment and adopt this process?

A. He would, except the grocer who has never gone into the business and is starting de novo. He is ready to purchase anything he likes.

Q. What about foods other than meat, such as dairy products? He would have to have that equipment?

A. I have no doubt that many of the retail meat dealers will continue with fresh meat, because there will be a trade that will want it, but they will in addition put in cases to carry this high-grade specialty which they cannot carry under present conditions.

Q. This will be in addition to the present equipment?

A. No, supplemental to the equipment which is now in vogue.

Q. And the grocer would have to have, in addition to his present refrigerator—

A. The grocer has no refrigerator equipment today. He may have for cheese, but there is very little refrigerator equipment in the grocery itself.

Q. You are distinguishing between the refrigerator system as the packer uses it and the so-called ice box that the grocer uses for mildly perishable commodities?

A. And a small amount of them.

Q. Consider on the one hand an independent retailer, or retail store, containing equipment necessary to handle quick-frozen meat; an independent grocery store containing equipment to handle quick-frozen food; and, on the other hand, a combined meat and grocery store handling the same volume of meats and foods, quick-frozen, as the other two combined; would the quick-frozen refrigerator equipment be more or less expensive for the combined store than for the two individual stores combined?

A. The combined store already handling a refrigerator would not buy the same kind of equipment that it would if it did not have a meat business. He would buy a very much smaller one, holding two hundred or three hundred pounds, while a store that had no meat business would, according to the size of the store, presumably purchase one substantially larger.

Q. Is the answer, then, that the cost would be greater to the combined meat and grocery store than to the other two combined?

A. My answer covered that at the outset. The combined store would not purchase the same volume of freezer equipment because it is going to continue, presumably, in the fresh meat business or custom type where the cutting is done based upon the order.

Making Comparisons

Q. I am sorry that I do not have the knowledge of marketing prices to enable me to make a computation of comparative costs from what you have said. I should appreciate it if you could tell me whether to meet the practical necessities of marketing, the equipment necessary for the combined store would be more or less expensive than the equipment necessary to handle the different stores individually. Adding up the equipment necessary to handle the two separate stores, which is more expensive?

A. Do I understand that you mean a comparison to be made between a grocery store which has not handled, but now proposes to go into the meat business?

Q. No; I am asking for a comparison between an existing grocery and meat store on the one hand and an existing independent meat store and an independent grocery store on the other. They all propose to go into the frozen foods—the independent meat store and frozen meat foods, quick-frozen; and the independent grocery store into quick-frozen foods other than meats, fruits and vegetables, and the combined grocery and meat store into quick-frozen foods in both lines. Now, where would the system be more expensive: that is, the system necessary to handle that business as we might expect the public to call for it, in a confined meat and grocery store or in some of the equipment necessary to handle the separate stores?

A. I think I can answer your question. You are presupposing three stores.

Q. Yes.

A. One is a combination of a meat store and a grocery store?

Q. Yes.

(Continued on Opposite Page)

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Belief In Highly Profitable Future For Quick Frozen Foods

(Continued from Opposite Page)

A. That store would presumably, theoretically, purchase a small freezer case to supplement his existing equipment. Your meat store doing nothing but a meat business, if he were going to enter into the quick-freezing business, would purchase just the same equipment; that is, a smaller freezer case. Your grocery store, if it was of good size, would purchase—

Q. Let me interrupt you there. I am assuming that the grocery store has the same volume of business as the combined store.

A. I should say that the grocery store would be wise to purchase larger equipment than would be supplemental equipment of the two stores already doing a meat business, because he is going to operate a meat business for the first time.

Q. My assumption does not include that. He is simply going to handle quick-frozen foods other than meat.

The Grocer's Requirements

A. Then he needs a very small equipment. He would have the smallest thing that he could buy, the same as the other two; but I cannot conceive of an independent grocery store, as a practical matter, going and buying a freezer equipment in which he would not get full advantage of the entire process. He would buy one large enough to take care of everything that is perishable.

Q. That is possible. That is another question to which I am going to come in a moment. I understand, then, that substantially the same equipment would serve the combined meat and grocery store that would serve the other store?

A. Yes, sir.

Q. The result, then, as you suggest, would be to drive all grocers into handling meats or with meats coming into combination with grocery stores?

A. It would not drive them; it would be a self-interest that would direct their action.

Q. But that self-interest would impel them to do so?

A. I would say that it would be to their advantage to do so, because the result of meat in chain stores has been that there has been a marked increase in their grocery business.

Q. You know of no cases where retail meat stores have gone into the grocery line?

A. Yes, and I am sure it will be made in that direction because each will desire to secure the benefits of the spread in overhead which an offering of a wider line of merchandise makes possible. It is much easier to go into the meat business on the part of the grocery man than the grocery business on the part of the meat man.

Q. What has been done to keep these quick-freezing display cases?

Proper Case Temperatures

A. It is desirable to keep them, say, not warmer than ten degrees above zero. It will keep still longer if they keep it at zero.

Q. Fahrenheit?

A. Fahrenheit, because of the tendency to oxidization and desiccation.

Q. Is that the same with respect to fruit and vegetables?

A. No; the oxidization takes places more with respect to those that have fat as a part of their fluid content, such as goose or duck or fat beef.

Q. So a lower temperature must be maintained with meat foods than with fruits and vegetables?

A. It should be because it will preserve the fruit longer. It is good business to do it.

Q. You said there were several other varieties of this quick-freezing process outside the Birdseye process. Are they equally desirable and economical with the Birdseye process?

Q. You are asking for my judgment. I think all the processes which operate from one have a very close limitation because the freezing process is not in proportion to the diameter, but roughly to the square of the diameter of the thickness. In other words, if you freeze a package one inch thick as compared to a package two inches thick, while the thickness is only twice as great, the time of freezing is substantially four times as great.

Q. The Birdseye process is substantially more desirable than the other processes to induce your concern to pay \$22,000,000 for it?

A. No; I did not have that much in my pocket. That was done by General Foods and their associates. They did not purchase it alone.

Q. They were associated with other banking interests in this purchase? You spoke of the operating costs of the gro-

cery store being approximately two dollars per hundred.

A. That is a personal estimate; that is not official and not founded on personal investigation, but I think it is somewhere near correct. It is based on some study that I have made of the situation. Nearly all of these figures are carried in percentages which are faulty, because their basis changes so materially as to make comparisons unreliable.

Q. We are not interested in decimal points; but I understood you also to say that the operating costs of the independent meat store, or the meat end of the grocery store, runs about three to four times as much per hundred dollars.

A. Per hundred pounds.

Q. In the case of the grocery store, did you mean two dollars per hundred pounds of groceries?

A. Two dollars per hundred pounds of groceries.

Q. That is based on the average of the general line of groceries carried?

New England Prices

A. Yes; it approximates a cost of 12 cents a pound in New England.

Q. But the meat store, you say, runs three to four times as much as the grocery store?

A. That is my opinion.

Q. Isn't your opinion that that would explain the wider spread of prices between the wholesale and retail prices in the meat line as compared with the other food lines?

A. No; I do not think that it would explain it. It is merely a fact. You cannot run a custom plant, taking shrinkages and losses and the expansion of the lines to be available into account, without having the cost applied to the product that is sold.

Q. If the cost of handling one commodity is three or four times as great as that of handling another commodity, would not the wholesale prices have to be absorbed to cover it?

A. Yes; your costs must be put in. In percentages you must have very much narrower differences, because your base cost of groceries is one-third of the averages of meat sold.

Q. So to get a correct result you would have to consider the cost of handling and its relation to the wholesale cost of the two commodities?

A. Yes; as a rough figure I should say your figures would run 50 per cent higher in the matter of meat, and your base would be three times as high as in the case of meat, so you get a disproportion there when you come down to a pound per pound basis.

Q. You mean that the spread of cost in the case of meat would be 50 per cent greater than the spread of cost in the case of groceries?

A. I mean that the cost to do business is three times and more than 300 per cent greater per hundred pounds.

Q. When you say in percentages you mean in percentages of the cost?

A. Or of the selling price, whichever way you desire to word it.

Q. And, of course, your operating cost is greater in one case as compared with the other? The operating costs that would tend to multiply in the commodity in which you are operating are greater so that the spread would develop more rapidly there than in the grocery line?

A. It is obvious price must be proportionate to the cost of doing business.

CROSS EXAMINATION (Resumed)

The Packers' Function

By Mr. Teegarden:

Mr. Snyder, you expressed your view that in order to get the proper benefit or the best benefit from the use of this quick-freezing process in marketing foods, it would be preferable to have the packers handle the meat clear through from the manufacturing stage to the sale end to the consumer, through the retail outlets?

est to adopt with reference to distribution, that they shall be free to adopt it;

A. No, I did not express that opinion.

Q. Will you kindly correct me?

A. I might have expressed it, but I did not.

Q. Do you care to express any opinion about that?

A. I do not think I do. I think that is a matter of policy.

Q. I would be glad to have an explanation?

A. I think that is a matter of decision as to policy on their part. I am entirely unaware of what their ideas are as to that.

Q. I understand you to say that in order to get economically the best re-

sults to the public, or the best economies out of this quick-freezing process, that one agency should handle the meats from the point of production clear through to the point of sale, to the consumer?

A. You do not quote me correctly. My idea is that they should have entire freedom of action so that whatever method is desirable in their own interest whether it means to finance the retailers in the adoption of the new program, to associate themselves with them in any way they see fit to do. It is a very large, new venture, requires a large amount of capital, a large initiative and merchandising ability, and I think the packers should be free to do that work in whatever manner is best in their own interests, and I conceive that to be in the interests of all parties, both the public and the stock raiser.

Q. You mean, then, that it is possible that there are substantial advantages from this process which cannot be obtained unless distribution is handled through from manufacturer to consumer by one concern?

A. That is, unless it is free for the complete initiative and ingenuity of the American merchant; whether it is the Big Four or any of the other packers.

Q. Insofar as this process is used by retailers, not owned by manufacturers; that is, by meat packers, where would they have to procure their equipment?

A. I should suppose the big chain stores would eventually put in their own material for doing the processing, acquiring their goods where they saw fit and putting up their own brands in their own way.

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Role of Chain Stores

Q. Do you mean that the chain stores would manufacture the quick-freezing equipment?

A. I mean the chain stores might well utilize quick-freezing equipment.

Q. But where would they have to obtain that equipment?

A. They would have to obtain it from the same sources that the packers did; those who had it to sell or to license.

Q. It is now being manufactured by the General Foods Corporation, you say?

A. Yes, it will be. They are not ready to launch it yet, because they have not perfected this, or have not seen properly perfected this step in distribution, this link in the chain. The store freezer and display case is available from a sufficient number of manufacturers in sufficient quantities to justify the national application of the plan.

Q. But, at present the patent is controlled by the General Foods Corporation?

A. It is. That is, that particular one is.

Q. That particular patent?

A. Yes.

Q. May I ask if these other processes that you have referred to—a half a dozen or more—have ever been attempted by the meat packers?

A. I think they are experimenting with some of them.

Q. Have any of the meat packers ever attempted to use any of these other quick-freezing processes?

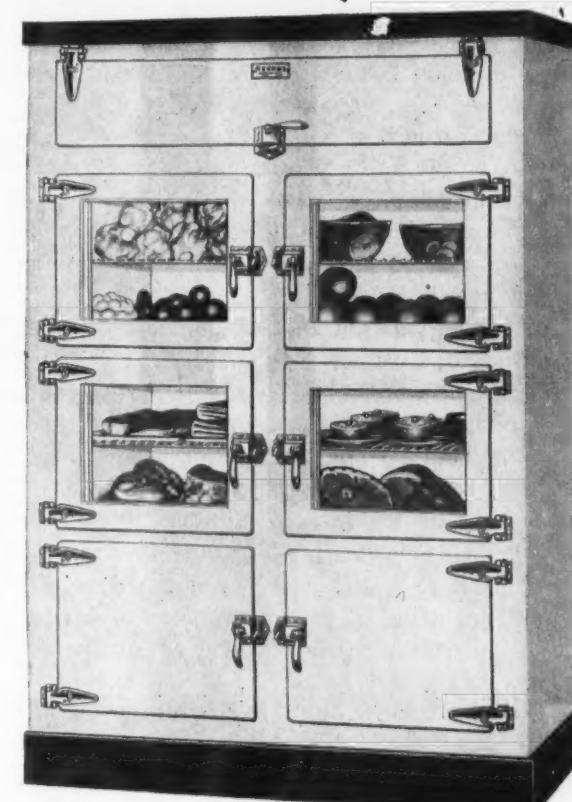
A. Swift & Company is developing a

(Continued on Page 6, Column 1)

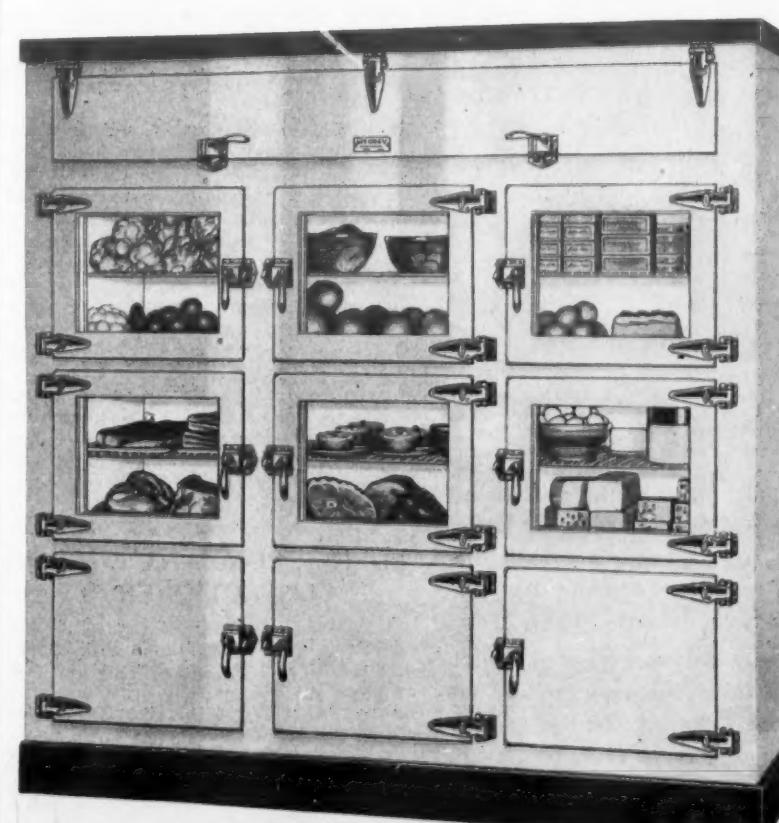
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Constructive Criticism

THE refrigeration man who happens to possess what is known as a defensive mechanism, the sort who invariably rushes to the front when his industry is criticized, will find the editorial in the December issue of *Food Distribution* most uncomfortable reading. He probably will throw the poor publication across the room before he has read the first dozen lines, and then dictate an indignant letter to the editor.

Under the title, "The High Cost of Cold," which possibly is a little harsh in its implications, *Food Distribution* proceeds to inform its readers who are engaged in the retailing of foods, that they should conduct themselves with due care and caution when buying a refrigerated case. For example, the second paragraph reads as follows:

"The great hullabaloo about refrigerated foods is rushing a lot of our food dealers into purchase of equipment before they are in a position to buy intelligently. Current talk about the cheapness is causing them to search for cheap equipment. The result is a flood of inadequate, poorly engineered equipment which is expensive to operate, does not properly protect the food, breaks down in many ways under usage, and soon goes to the junk pile to make way for a new experiment, perhaps no better than the last."

That does sound rather rough to the refrigeration industry as a whole, but after all isn't it pretty sage advice? Careful, discriminating buying on the part of retail merchants will help the refrigeration industry. It will be a big factor in keeping manufacturing standards where they belong, and will encourage the maker of well designed and well constructed equipment. He will find that his high quality of work is understood and appreciated.

So, after all, even though *Food Distribution* does refer to some of our casemaking brethren as "wood butchers," the good that the editorial will accomplish is likely to outweigh the injured feelings of the few who take the trouble to feel aggrieved. "If the shoe fits, put it on," is a saying that has lived for many years with undiminished vitality.

Smart, intelligent, alert customers will be welcomed by the men of the refrigerating industry who are devoting their time and efforts to meeting the demands created by the new developments in the freezing of foods.

* * *

Keen Insight

His testimony before the Washington Court which has been holding hearings on the petition of Swift and Armour for modification of the consent decree, Frederick S. Snyder, chairman of the board of the Institute of American Meat Packers, predicts an inevitable change in the distribution of meats. He sees in the various quick-freezing processes a new method of preparing meats that will enable the packer to effect remarkable economies, and to extend to a point hitherto impossible the influence of his good name and all that stands behind it.

Mr. Snyder does not mince words. When he thinks that "revolutionary" is the best word to describe what is coming, he says so. So interesting a witness did Mr. Snyder prove that his interrogators found themselves leading him astray into almost irrelevant comment on various phases of the packing business.

The reader of the Refrigerated Food section who wants to know the views of a successful merchant, who has spent more than two score years in the marketing of meats, should read every word of Mr. Snyder's testimony.

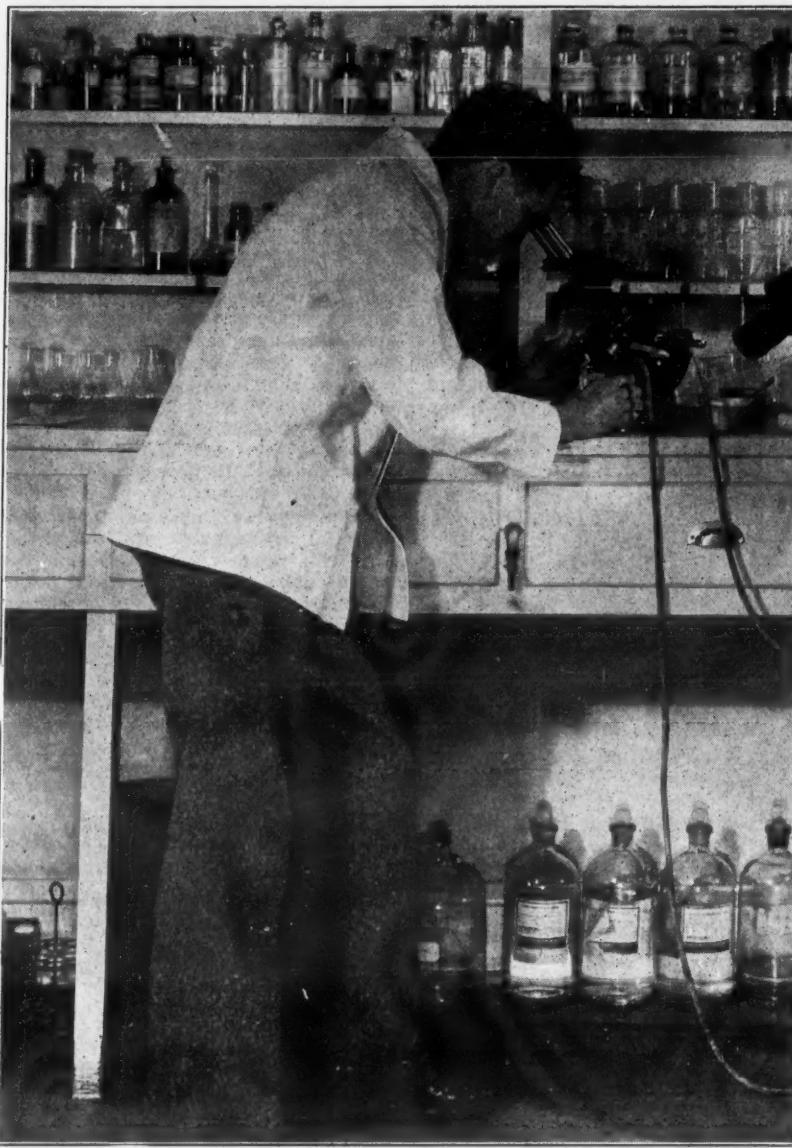
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Dangerous Fluctuations

PRACTICALLY all the scientific experts agree that about the worst thing that can happen to food is to allow its temperature to go up and down like an elevator. When it has once been frozen or brought to a temperature slightly above its freezing point, it should not be allowed to get warm and then be frozen again. Much of the existing prejudice against certain frozen products is due to the fact that due precautions have not been observed to make certain they should not be subjected to such variances in temperatures.

That is one excellent reason why the housewife who wants to turn her electric refrigerator off and depend on Mother Nature at this time of year, should be dissuaded from her purpose. There is no better way to expose food to dangerous fluctuations in temperature than to depend upon the outside atmosphere for refrigeration. Sometimes it works, but more often it doesn't.

Frozen Fruits Pass Tests



Dr. Rhodes Using Refractometer

Philadelphia, Pa.—Findings are announced by Dr. J. Cecil Rhodes, director of the Medical Arts Laboratories, Philadelphia, following completion of the first phase of an investigation he is conducting to determine the effects of the new quick-freezing process upon fresh fruits frozen during their season for year-round consumption.

Fresh peaches frozen at Montezuma, Georgia, last summer by a company organized by Tom Huston, of Columbus, Georgia, were employed in a series of laboratory tests. The tests were designed to show what effect, if any, the freezing had upon their flavor, food value, mineral salts content, enzymes and other chemical constituents. The fruit was subjected both to chemical analysis and taste tests. Bacterial cultures were made for evidence of the general effectiveness of the quick-freezing process in the preservation of fresh fruits.

"The tests show," Dr. Rhodes states, "that all of the original nutritive values and mineral salts were present. The very delicate oxidizing enzymes have been preserved. There is no evidence to

indicate that any of the other chemical constituents or any of the flavor has been lost. Study of the bacterial cultures has demonstrated the general effectiveness of quick-freezing in preserving perishable fruits in a fresh state.

"In the taste tests, forty-two men and women of various ages and walks in life tasted both the frozen fruit and fresh peaches of the same variety purchased in Philadelphia produce markets. Forty of these forty-two persons preferred the frozen peaches. Reasons given for preferring the frozen fruit were that they were more juicy, sweeter and had a better flavor. The better flavor and juicier quality of the frozen fruit is explained by the fact that the peaches were frozen before they had an opportunity to lose the flavor and juiciness always lost by the unfrozen fruit in some degree during transportation to markets."

At present Mr. Huston, one of the pioneers in the quick-freezing of fresh fruits, is arranging for the construction of another quick-freezing plant at Orlando, Florida. He will freeze orange juice to be delivered at the door by the milkman along with the morning milk.

type of equipment for confectioneries. Sale of the equipment was made by the Henry G. Loebner Co., 507 Fifth Avenue, New York City.

DRY-ICE BUILDING REGENERATOR

Peoria, Ill.—The erection of a storage similar to the one located at Elizabeth, N. J., for some eight million pounds of solid carbon dioxide is under way here for the DryIce Corporation of America.

Novel methods of storing this highly perishable material over a period of months at a temperature of 109.6 degrees below zero, invented by engineers of the DryIce Corporation, were proved successful in a large experiment conducted during the past season and involving nearly a quarter of a million dollars' worth of its product, "Dry-Ice." The initial installation in connection with the corporation's plant at Elizabeth, N. J., demonstrated fully the value of the new methods.

Ground has already been broken for the new installation at Peoria, and this unit, when completed, will assure absolute continuity of supply of solid carbon dioxide to users throughout the Middle West. A fleet of forty specially constructed refrigerator cars will transport the product to Middle Western markets, making it available over a wide territory. Plant capacity now installed, supplemented by this new storage unit, is ample to provide for a greater increase of demand during 1931 than in 1930.

Solid carbon dioxide for storage in the new "regenerator," as the unit is called, will be manufactured by the DryIce Corporation from pure carbon dioxide gas derived as a by-product from the processing corn and other grains in the plant of the Commercial Solvents Corporation at Peoria.

ORGANIZED

Effort Necessary to Give Impetus to Sale of Frozen Foods

FOSTORIA, OHIO, NOV. 20, 1930
Electric Refrigeration News,
Detroit, Mich.

I was very much interested in the meeting of the Detroit Section of The A. S. R. E. at Webster Hall on Nov. 3.

The papers presented, necessarily short because of the number and variety of subjects treated, were evidence of the study being given to the problems involved in frozen food merchandising.

For some time I have been working with representatives of one of the larger packers to interest existing merchants in the sale of quick-frozen package meats.

This experience has brought out some remarkable facts, a realization of which is absolutely necessary, if we are to gain and hold the good will and confidence of the consuming public.

First of all is the apparent opposition of present merchants to the possibilities of profitably merchandising the frozen meats.

Their misconceived ideas of the quality of the meat based on that of the frozen meats with which they have had experience in the past.

Their thought that the customer wants to see the meat cut and weighed when they are buying.

And the general idea that the cost is bound to be higher.

I place the merchant opposition as of Primary import for I have not found the consumer anywhere near as much opposed to frozen meats as are the merchants.

A great deal has already been done by manufacturers and distributors of other lines of food products, such as sugar, coffee, tea, breakfast foods, etc. formerly sold in bulk, to teach the consuming public to buy in packages and standard advertised brands.

A survey of how this was brought about will serve as a guide to put the producer of frozen foods on the right track.

There is a reticence apparent on the part of the producer to recognize that he is entering a different field of merchandising, in that, while he is still selling a food necessity, he is engaging in a specialty selling field, involving the need of well known specialty selling methods.

It is going to be a somewhat expensive experience, but an analysis of the possibilities will, I am sure, warrant that expense.

If the producer will recognize these possibilities and will agree to appropriate the necessary finances to promote the sales promotional and advertising campaigns, he will find public acceptance gained thereby far beyond expectancy.

I have found almost a total lack of training of the men employed to present the subject to the merchant; they know meats but have no ideas of methods necessary to create desire on the part of the merchant.

This brings out the need for the producer to properly train the men for the job, the sales school, such as is evidence with every major producer of refrigerating equipment.

There is almost a total absence of descriptive or illustrative material to present to either merchant or consumer to bring out the different processes used in preparation of the product and why it differs from and is superior to the frozen meats previously sold.

An organized movement, carefully planned, to include the producer, retail merchants, refrigeration sales agencies, health authorities and the newspapers should be inaugurated in selected cities to give intensive publicity in introduction of the product to the public.

Collective advertising of selected merchants, simultaneous with demonstration meetings with civic and women's clubs and organizations, and the domestic science classes in the public schools to be addressed by men especially trained, the showing of films of the processes employed in production, and the actual demonstration of the preparation, cooking and serving of the foods and of their superior quality, will create almost instant acceptance and consequent demand.

These methods, as I have said before, are not new, their efficiency has been demonstrated in many other specialty selling lines and, in every instance with which I am familiar, have produced results quickly and surely to the end that production costs, because of volume sales resulting from the demand thereby created, have been lowered much more in proportion to the expense entailed.

I will be only too glad to co-operate with any one wishing to go more fully into the details of plans for this work and to help in successfully carrying on such a campaign as I have suggested.

Very truly yours,
A. M. FENWICK.

Numerous Fruits and Vegetables Frozen By Georgians

THE wide range of experimentation in the freezing of fruits and vegetables being carried on by the Georgia Experiment Station, is evidenced by the list of products which have been frozen at the station during the last five years. The long summary of fruits, vegetables and juices which is printed below is arranged in the order of their adaptability to freezing as disclosed by the tests conducted thus far.

This tabulation is reprinted from the pamphlet on the Fruit Freezing Conference held in October, which was recently issued by the Experiment Station.

Fruits **Varieties**
Strawberries—Missionary, Klondike, Raspberry—June, Erskine, Eureka, St. Regis, Golden Queen, Van Fleet. Figs—Celestial, Brown Turkey, White Ischia, Black Ischia, Lemon.

Peaches—Elberta, Hale, Georgia Belle, Hiley, Philip, Tuscan, Walton, Sims, Woodland Cling, Early Rose, Luttrell, Honey, Florida Gem, Mayflower.

Dewberries—Young, Lucretia.

Blackberries—French Lawton, Cran-

dal, Eldorado, Messereau, Ward, Early

King, Clowers.

Blueberries—Rabbit Eye.

Cherries—Early Richmond.

Pears—Keiffer A, Keiffer B, Keiffer, Hall's Everbearing.

Plums—Red June.

Grapes—Scuppernong, Warren, Hunt.

Huckleberries—Native.

Nectarines—New Boy.

Bananas—Common variety found on

markets.

Fruit Juices **Varieties**

Grape Varieties—Thomas, San Jacinta, Concord, Black Cade, Irene, Latama, Hybrid, Scuppernong, Spalding, LaSalle, Stuckey, Hunt, Flowers, Howard, Thompson Seedless, San Monta, Tokay, White Cade, Warren.

Vegetables **Varieties**

Lima Beans—Henderson's Bush, Fordhook.

Peas—Thomas Laxton, Alaska.

String Beans—Giant Stringless Green Pod.

Cantaloupe—Hearts of Gold, Honey Dew.

Tomatoes—Marglobe.

Watermelon—Pride of Georgia.

Radishes—Lady Finger.

Asparagus—Varieties generally grown in Georgia.

Summary
14 fruits 48 varieties
8 vegetables 11 varieties
3 juices 20 varieties

25 fruits, vegetables 79 varieties fruits and juices.

Media in Which Fruits and Vegetables Were Frozen

Vegetables—Per cent salt: 5, 4, 3, 2, 1, Pure Water. None.

Juices—Per cent sucrose: 15, 10, 7½, 5, 2½. None.

Fruits—Percentage sucrose: 70, 65, 60, 55, 50, 45, 40, 35, 30, 25, 20, 15, 10, 5; 35 plus 2% citric acid; 35 plus 1½% citric acid; 35 plus 1% citric acid; 35 in milk; 35 in cream; 35 in 4% phosphoric acid; 35 in 2% sulphurous acid; 35 in 2% sodium chloride; 35 in 2% alcohol; 35 in 2% calcium phosphate; 35 in 1% malic acid; 35 in .05% benzoate of soda; 35 in 2% tannic acid; 35 in .001% acetic acid; 35 in .01% mercuric chloride; dry sugar, none.

Kinds and Sizes of Containers Used

Mono Service Cup—16 oz., 4 oz.

Lily Cup—16 oz., 6 oz., 4 oz., 2 oz.

Sealright Cup—24 oz., 16 oz., 8 oz.

Security Cup—16 oz., 8 oz.

Crystal Glass—16 oz. constricted at top, 12 oz. flaring at top, 8 oz. constricted at top, 8 oz. flaring at top, 6 oz. flaring at top, 5 oz. flaring at top, 4 oz. flaring at top, 8 oz. constricted at top under vacuum.

Green Glass—4 oz. flaring at top.

Tins—16 oz. not under vacuum, 16 oz. under vacuum.

Aluminum—8 oz. not under vacuum.

Wrappers—5 x 7 inches aluminum foil plain; 5 x 7 inches aluminum foil paper lined; 5 x 7 inches vegetable parchment, heavy; 5 x 7 inches vegetable parchment, medium; 5 x 7 inches vegetable parchment, light; 1 inch tubes of cellophane; sheets of light waterproof cellophane; sheets of medium waterproof cellophane; sheets of heavy waterproof cellophane.

COLLEGE DISPLAYS DAIRY PRODUCTS IN G. E.

Springfield, Mass.—Electric Device Co., General Electric Refrigerator dealer, has installed a C-450 model with glass doors in Flint Hall at Massachusetts Agricultural College in Amherst, for the display of milk, cream, ice cream and other food items sold from the college farm.

Synchronization

Toronto, Ontario—Color is the dominant note in the new A. & P. Black & White store which made its opening here recently. As the name suggests, the interior color scheme is white with black trimming.

Refrigeration equipment, such as cases, counters and coolers, are so finished as to fit in harmoniously with the color

scheme. The large refrigerator pictured here is used for storing dairy products. Its black trim makes it stand out effectively from the clean, white walls. Kelvinator compressors provide the refrigeration in this new A. & P. unit. The installation was handled through the National Business Department of Kelvinator of Canada, Ltd., London, Ont.



Big Dairy Refrigerator with Black Base

Refrigerators in Crowded Setting

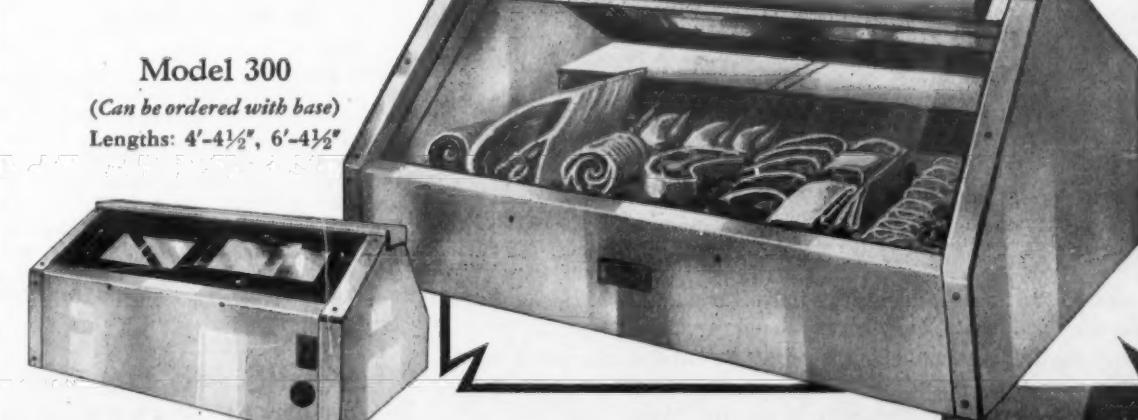


WHEN the San Francisco, Calif., annual food show opened recently, refrigerators and ranges were on hand to battle for the attention of the interested homemakers. Despite the fact that the stage was crowded with food products, the sentinels of food safety were well able to tower over the pyramids of packaged merchandise. Luncheon was served to the homemakers and judging from the photo this proved to be a good drawing card. The attentive housewives were made acquainted with a variety of products that have their place in the home or on the food menu. Everything imaginable in the food line was crowded on the large platform.



A WINDOW CASE connected with electric refrigeration is an aim of every merchant. It is now possible for him to show his bargains and quality in a snow-white sanitary case that makes the food look fresh and crisp. It is easy for a merchant to get one new customer per week. It is necessary that he change his window display daily to attract passers-by. This case is made in two sizes, concealed lights in the top—yet lights are still on the outside of the case; composition side-sliding doors in the back that never swell; one-piece porcelain interior; porcelain exterior with no metal trim whatever to keep clean.

Sent FREE—an eight (8) page illustrated folder telling the many possibilities of this new modern display case.



C. V. HILL & CO., INC.
Trenton, New Jersey

SNYDER TESTIMONY

(Concluded from Page 3, Column 5)
process of its own and has done a good deal of experimentation, spent a lot of money in the last year, has installed freezing apparatus in their branch houses, to get ready to receive the products for distribution to the retail dealers.

Q. Have they ever used any other quick-freezing process besides those that are now developing?

A. I do not know what they may have used in their experimental work. I think they have made tests of other processes. In developing their own processes, they are doing that privately, as they naturally would do.

Q. Has Armour & Company ever distributed any quick-frozen products?

A. No, but they have done a lot of research work, to my knowledge, in the last year, on this same subject.

Q. They have never actually used the process on a commercial scale?

A. They have not.

Q. Nor Swift & Company either?

A. No. Mr. White told me that his policy was to wait and let some of the other people do the experimenting, before they undertook it for themselves, but, he added that no doubt it was going to revolutionize the distribution of products.

Q. But, who ever owns or controls a successful quick-freezing process, when it is developed and it should be successful, on a commercial scale, whatever retail stores or agencies in the chain of distribution desire to use that, will have to obtain it from such controlling concern, either through purchase or by permission, to use it by license or otherwise?

A. Most of the machines with which I am familiar are sold outright, other than the Birdseye machine, and no policy has been announced with respect to that as yet.

Q. That has not yet been determined?

A. No.

Q. Has any arrangement been made with any of the standard meat packers looking to the use of this quick-freezing equipment, quick-freezing process?

A. You mean the Birdseye process?

Q. Yes.

A. Not so far as I am aware as applied to this country.

Q. You mean arrangements have been made with reference to its foreign use?

A. I implied arrangements were in process of development with respect to its foreign use, which is true. They are under negotiations.

Q. You say it has not been determined by the present owners of the Birdseye process whether they will consent to its sale outright or will confine themselves to leasing?

A. No.

Q. Or licensed use?

A. No decision has been announced with respect to it.

Q. Or as to whether others will be licensed to manufacture it?

A. No announcement has been made,

but I may say personally I have no doubt all the high grade concerns who apply, who do their work on a high standard, will probably be arranged with on some basis.

Q. I noted you said no arrangement with the packers or with any packer for this purpose has been announced. Do you mean to say that some arrangement may be made?

A. I say there has been no announcement of policy. There has been no announcement of policy as yet. I can say that there are no arrangements with the packers in the United States up to this time. I can say that affirmatively.

Q. Are you able to say that there has been no determination of policy?

A. I can say that was also true.

Q. You spoke of the ease of starting in the meat packing business on a small outlay of capital. How would that matter be affected by the adoption of this quick-freezing process if it becomes general in the industry? Will that require substantial additional outlay of capital?

A. No. While that, too, has not been announced, I will announce to you that there is a new plate freezer on which patents are issued, which is about to be put on the market when the whole plan is to be launched, which will carry seven series of freezing surfaces; that is, it will freeze seven levels at once, which would really mean eight freezing surfaces, which will be three and a half times as many surfaces as are in present use with the original belt machine, which will also be, when desirable, a self-contained unit carrying its own ammonia compressors, so that it can be moved into a corner of this inclosure and by merely connecting it with an electric light bulb and a water tap, you could carry the freezing process down in this corner of the court room, making it completely available for the smallest as well as the largest plant in the country.

Q. A small unit, for instance, comparable with the household ice box?

A. On the same general principle as the household ice box, but applicable to the freezing of fruit and meat and poultry products, anywhere in the country.

Q. You say that has been perfected?

A. Perfected and in operation; has been for several months.

Q. Is that superior to the Birdseye process?

A. It is the Birdseye process in a secondary form.

Q. Is part of the Birdseye process?

A. It is.

Q. The same patents cover that?

A. The same patents cover it. This is an application of the same principle.

Q. That, also, then, is controlled by the General Foods Corporation?

A. It is, yes.

Q. If this quick-freezing process is developed in the way present expectations lead you to believe, it will be possible and practical to take the animal into the slaughter house, kill it, cut the meat up immediately into the marketable cuts, freeze them and send them right through to the retail shop where the consumer can purchase them?

A. Not only possible, but that is the orderly way to do it.

(To Be Continued in Dec. 17 issue)

Refrigerator at the Crossroads



Canton, Ohio.—That the crossroads store benefits from the installation of electric refrigeration has been ably proved in the case of George J. Motz, who owns and operates the Greentown General Store in Greentown, Ohio, a village of 500 population. Motz purchased a General Electric C 451, three months ago. He claims he is doing a \$200 meat business a week with not a penny more overhead than he had before.

For thirty years, Motz has sold everything from bananas to calico, from chocolate drops to overalls, but, until he had his electric refrigerator installed, he had never tackled meats. Now he

carries a complete line of steaks, chops and roasts which he displays in the 2 glass compartments of his refrigerator. On Saturdays, Motz fills his refrigerator case with "specials" in meats, which sell like hot cakes on a cold morning to the farmers who come to town to do their Saturday trading.

W. H. Henderson, who sold Motz his refrigerator and who believes the country store field has barely been scratched by refrigeration as yet, was appointed commercial manager of the newly organized commercial department of the Willis Company, General Electric distributors. One entire showroom in the Canton store at 404 Tuscarawas St. W.,

has been entirely redecorated and so rearranged that every type commercial model can be shown. Large refrigerators, ice cream cabinets, ice makers, biological cabinets, water coolers, both pressure and bottle, meat cabinets are all displayed to best advantage on the floor.

One of the first commercial restaurant jobs sold by Henderson since taking charge of the new department, was to the Elite restaurant on the "Square" in Canton. The Elite until this time had depended entirely on the local ice man for its refrigeration. Henderson sold a C-601 General Electric refrigerator to this Canton restaurant.



The Big G. E. on Duty at Crossroads Store

AUTOMATIC VENDER ON DUTY IN PARK

New York, N. Y.—Out in Palisades Park, on the Hudson, amusement seekers can find refreshment as well at a big vending machine, erected by the Schermack Corp. of Michigan, which has metropolitan New York offices at 10 East 40th Street.

This machine will trade sandwiches, pies, and confections for nickels and dimes. All articles it vends are wrapped in waxed paper, and removed after 24 hours if unsold.

ELECTRIC COOLERS FOR RENTAL SERVICE

Omaha, Neb.—The Storz Electric Refrigeration Co. of Omaha, through A. J. Flinck, the manager, has closed a contract with the Allen Ice & Water Cooler Co. for 600 General Electric water coolers. The Allen Company has been conducting a water-cooler service for many years in Omaha with ice service. Distilled water also was furnished.

The Allen Company will continue the distilled water service through the bot-

tle system where required by customers. The General Electric coolers were purchased outright and will be leased to customers at a regular monthly charge. This company operated an artificial ice plant for some time in connection with the water cooler service, and will continue to do so.

This is the first attempt at leasing the electric coolers in the Storz territory and is being closely watched by other refrigeration supply houses here.

TEMPRITE IN PROVIDENCE

Providence, R. I.—The Refrigeration Company, Inc., 327 Canal Street, has recently sold an installation which called for a Temprite water-cooling unit for use in a cafeteria. The equipment is being duplexed along with other refrigeration equipment.

ON THE O. S. U. CAMPUS

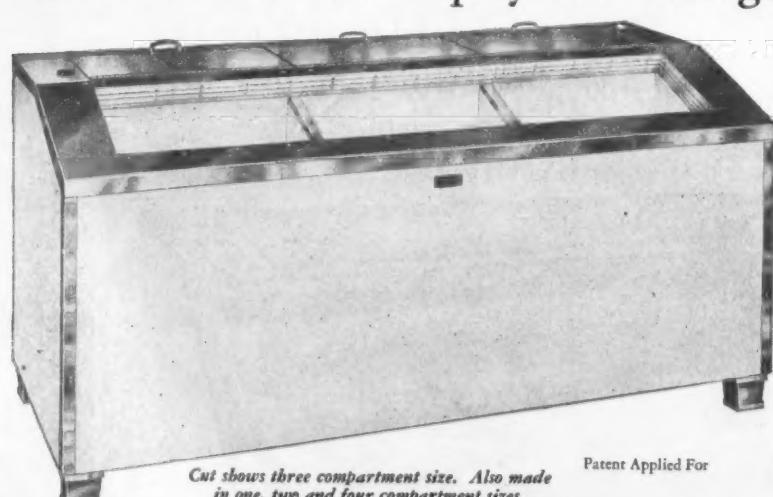
Columbus, Ohio—Electrolux gas refrigerators have been installed in the Domestic Science Department and the laboratories of Ohio State University by the Gas & Electric Appliance Company, local distributors.

SPECIAL EQUIPMENT FOR HOTEL KITCHEN

Springfield, Mass.—Hotel Stonehaven, a family apartment hotel, has installed a special built-in cabinet enclosing Frigidaire equipment, adjacent to the kitchen. It is of the walk-in type, 8 feet wide, 10 feet high and 12 feet deep, for storing meats, fish and various perishables, and is equipped with two 1874-F coils and a Model U $\frac{3}{4}$ h. p. water-cooled compressor. A Frigidaire previously installed will be used henceforth for milk, cream and butter exclusively. The sale was through the Springfield branch of the Frigidaire Corporation.

DEVOTING MORE ATTENTION TO AUTOMATIC VENDING

New York, N. Y.—All manners and makes of vending machines are exported by Francis H. Love, Inc. As yet America lags behind other nations in the development of perishable food retailing devices, according to Mr. Love. Recently, however, United States manufacturers have begun to pay particular attention to this field of automatic merchandising, he declares.



Cut shows three compartment size. Also made in one, two and four compartment sizes.

Proper design for maintaining low temperature with minimum loss. Scientifically insulated for efficient and economical refrigeration. Ample display compartment brings products out to customer's vision. Abundance of storage capacity, all within easy reach of clerk. Dependable, efficient, economical refrigerating Unit. Moderately priced so that cost of equipment is reasonable instead of prohibitive.

Write us for full detail, costs, etc., telling us what Frozen Products you want to handle, and what capacity you need.

Grand Rapids Cabinet Company
Manufacturers
GRAND RAPIDS, MICHIGAN

Problems of Demonstrating the Refrigerator to Housewives

By Marion F. Sawyer

P LANNING a demonstration or a series of demonstrations on electric refrigeration presents problems that are not met by the woman who works with other lines of equipment, nor by the one who deals with food products. There are certain peculiarities, inherent in this particular type of work, that when met for the first time seem to present great difficulties, and only by experimentation and practice can these difficulties be surmounted.

Perhaps the first problem offered is concerned with the time element. In the ordinary demonstration, dishes may be prepared and served, all before the eyes of the audience. This is an arrangement greatly to be desired, for if a woman can follow all the steps of preparation and then view the result of the work, all carried out in natural sequence before her eyes, it is much easier to create the desired impression.

Fast Freezing Is Great Bid

In the past this has been impossible to accomplish with frozen dishes in the demonstration of ordinary length. Now, however, with some of the fastest freezing refrigerators, it is quite possible to place a simple, not too sweet fruit mixture in the freezing compartment at the beginning of a demonstration and remove it, fully frozen, as a fitting climax, just before the meeting closes. This should be done, if possible, as it creates an impression which can be obtained in no other manner.

Of course, when this is impossible, the obvious solution is to prepare beforehand the same dishes which are to be made during the demonstration, so that the women in the audience may see both the steps of preparation and the finished product. However, often, instead of making identical dishes, it has been found to be better to change them somewhat, giving variations of the same recipe. For example, if a frozen fruit salad were to be made during the demonstration, a vegetable or meat salad, using the same basic recipe, might be prepared ahead of time and frozen, thus presenting the opportunity of stressing the wide variety of dishes which may be frozen successfully. No matter what method is followed, it should be an almost invariable rule that some dishes should be prepared long enough in advance of the demonstration, so that the finished product may be observed, and if possible, tasted, at the conclusion of the meeting.

Other important points to be considered in planning the demonstration are to be found in the choice of dishes. It is always a temptation, in striving to select the most attractive and appealing recipes, to forget the great objection voiced by housewives all over the land: that frozen dishes, desserts in particular, are too expensive to serve except on special occasions. All of us, in our experimental kitchens, have been work-

ing to find inexpensive recipes, which would at the same time freeze smoothly and satisfy the palate. We have all succeeded, to a greater or less degree, but we are still apt to trot out our pet recipes, calling for quantities of heavy cream, and many eggs, when we are particularly desirous of staging a most successful demonstration. And the women enjoy the demonstration, but go away feeling that such dishes are only for the rich.

Not only for the sake of our own make of refrigerator, but for the electric refrigeration industry in general, must we suppress such impulses, and make sure that in each demonstration are included recipes for at least one or two dishes which the woman with the slim purse may feel justified in making at home.

Whether the demonstration is to be complete in itself, or one of a series, will, of course, influence greatly the type of dishes prepared. If you are planning a series of refrigeration demonstrations, you may give one on each course in the meal, or on each type of dish which would be included in a menu. Thus in a series of six or eight demonstrations, you might select the following subjects for the various days:

1. Appetizers, including hors d'oeuvres and jellied and frozen soups.
2. Entrees.
3. Salads (one or two demonstrations).
4. Desserts (one or two demonstrations).
5. Afternoon tea dainties and iced beverages.
6. Refrigerator baking (rolls, cookies, puff paste, etc.).

If, on the other hand, you are giving only a single demonstration, or even a series, if your audience is not to be depended upon for regular attendance, the menu demonstration usually will be found to be more satisfactory.

The chief difficulty with the type form of demonstration as opposed to the meal plan or menu demonstration, is that the former usually draws more uneven crowds. While there will be a few persons interested in all the types of foods demonstrated, more people always attend the salad and dessert lessons, and the others are apt to draw smaller audiences. This drawback is sufficiently important, that it may be overlooked only if the regular attendance of the audience is assured in some manner.

One way of overcoming this difficulty, if the series is short, and the time given to each demonstration sufficiently long, is to combine two types, as for example salads and iced beverages, or soups (iced and jellied) and entrees.

It is, of course, always desirable, in order to finish up the demonstration with a flourish, and to leave the most favorable impression possible on the audience, to display all dishes before serving them. When the dishes have been prepared in advance are removed from the refrigerator, they should, if possible, be placed on a serving plate and garnished as they would be for home serving. Suggestions for garnishing, and also for the place of each dish in the day's menus, will do much to create a definite interest in the proceedings.

The final test of a good demonstration is, of course, the number of resulting sales. These, however, may be long deferred, and it is often difficult, or impossible, to trace sales directly to the demonstration which inspired the desire in the customer.

Demonstrations have been time proved to be an invaluable means of arousing interest in the product. The amount of interest felt by the audience can usually be gauged accurately by the responses and questions elicited from the audience. It should be the aim of every field worker to have her audience take an active part in the program. The more questions that are asked; the more sprightly the discussion between platform and audience; the more satisfied should the instructor be with her day's work.

NEILSEN MAKES UNUSUAL HOOK UP IN BAKERY JOB

Minneapolis, Minn.—An unusual commercial refrigeration job was made by A. Victor Nielsen, who was manager of the refrigeration department of the W. S. Nott Company, Minneapolis, Minnesota, former Copeland distributors, in Mrs. Igeman's Bakery at 1017 West Broadway, Minneapolis. This particular installation has different types of coils, the dry type using the expansion valve and the flooded type using a float valve without two temperatures on the choke valve. The job consists of a two-hole compartment ice cream cabinet designed by Mr. Nielsen.

The cabinet is 6 ft. long. It is insulated with 4 in. of cork on the bottom, 4 in. on the side and 3 in. on the top. The top is finished in one piece Monel metal, the sides being of Armco Ingot steel finished with five coats of gray Duco. In addition to the two holes for ice cream, there is a bottle storage compartment wherein the half-pint bottles of milk are stored until used at lunch time.

This storage compartment is kept cold by brine circulating from the ice cream compartment over to the brine container. The flow of the brine is controlled by a hand-operated valve in the pipe line. On the opposite side of the small brine container there is another compartment wherein two cylinders connected to the city water cool the drinking water used. There is also a single cylinder connected to the charged soda water supply, for cooling the soda water.

Each of the two cooling cylinders are connected with the draft arm directly over the cylinders. Directly over the bottle storage compartment there are four sunken bowls, two large and two small. One of the large bowls is used for chipped butter and the other one for extras such as lettuce for salad, etc. The small jars are used for ice cream dippers, etc.

Another job was the installation of a small display case, 4 ft. high, 4 ft. 6 in. wide, and 16 in. deep, insulated on the top, ends, bottom and back with 2 in. of cork. The coil, a 4-ft. Zero tube, is operated with an American Radiator thermostatic valve.

In the kitchen, a 35 cu. ft. McCray refrigerator is hooked up so that ice can be frozen directly under the coils in pans and at the same time producing only a temperature of 38 to 42 degrees in the storage compartment underneath.

This refrigerator is operated with four 16-inch Zero tubes with an American Radiator thermostatic expansion valve. One of the features is a salad chilling plate. This plate is 22 in. wide, 6 ft. long, and is finished with a Monel top. It is built into the counter and sunk down 4 inches. It maintains a tempera-

ture of 28 degrees on the plate at all times. Salads are set directly on this chilled plate which absorbs the heat out of the dish and chills the salad. This salad coil is also of the dry expansion type and is operated with an American Radiator thermostatic expansion valve.

Mr. Nielsen is now experimenting with a new type of coil for household and apartment models which will be self-frosting and yet make ice cubes in from two to four hours.

COPELAND GOES ON STAGE

New York, N. Y.—In the model kitchenette recently completed by the Institute of the New York *Herald-Tribune*, one of the smaller Copeland cabinets has been installed. According to Esther E. Kimmel, director of home economics of the Herald-Tribune Institute, this kitchenette is located on the stage of the Institute auditorium.

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Featuring Comfort Quality and Service
450 ROOMS of REAL COMFORT
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Special weekly and monthly rates
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ASSURE your customers' complete satisfaction by including a Time-O-Stat No. 149 Airswitch in every commercial refrigeration installation you make. Especially adaptable for the control of temperature in butcher boxes, florist cabinets, fur vaults and cold storage rooms.

Modernize your old installations with the Airswitch. It is quickly and easily added to an installed unit. Take advantage of this profitable market.

Because of the Time-O-Stat Mercury Switch, this control operates dependably, without attention, and with unusually long life. Where Time-O-Stat Mercury Switches are used switching action is always positive and protected. Send for complete information on Time-O-Stat refrigeration controls.

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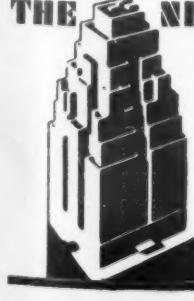
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THE NEW YORKER



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RALPH HITZ - Managing Director

NEILSEN MAKES UNUSUAL HOOK UP IN BAKERY JOB

Minneapolis, Minn.—An unusual commercial refrigeration job was made by A. Victor Nielsen, who was manager of the refrigeration department of the W. S. Nott Company, Minneapolis, Minnesota, former Copeland distributors, in Mrs. Igeman's Bakery at 1017 West Broadway, Minneapolis. This particular installation has different types of coils, the dry type using the expansion valve and the flooded type using a float valve without two temperatures on the choke valve. The job consists of a two-hole compartment ice cream cabinet designed by Mr. Nielsen.

The cabinet is 6 ft. long. It is insulated with 4 in. of cork on the bottom, 4 in. on the side and 3 in. on the top. The top is finished in one piece Monel metal, the sides being of Armco Ingot steel finished with five coats of gray Duco. In addition to the two holes for ice cream, there is a bottle storage compartment wherein the half-pint bottles of milk are stored until used at lunch time.

ENTHUSIASM

Is Keynote of Muncie Tests

(Concluded from Page 1, Column 1)

Mouchel thanked his volunteer helper and decided that possibly he was getting even more co-operation than he deserved. He says that his customers are a great help in spreading the story of the advantages of quick-frozen meats. Most of his new customers who come in to try the Sally Lee meats for the first time have heard about them from some friend.

Repeat business is following about the same curve as at Springfield, Mass., where the General Foods campaign has been in progress since last spring.

Fresh and Frozen Meats

The Hays store is a typical independent establishment carrying a full line of groceries and fruits and maintaining a fresh meat department as well. The Sally Lee Frigid meats are sold from a small case right up in the front of the store, and Mr. Hays is more than pleased when his customers fill their meat requirements there and make no effort to penetrate to the fresh meat department in back. In fact, when he took a short holiday early in September he practically closed up the fresh meat end of the business and let his customers buy quick-frozen meats or go elsewhere. He still has a few customers, however, who have not yet nerved themselves to try quick-frozen meats, but he has hopes that they will capitulate before long. One valued customer who has been on the books for years came in the other evening and wanted a roast of a certain kind and weight. Mr. Hays, standing behind his fresh meat counter regretfully told him that such a roast wasn't to be had fresh, but that one of the exact description was at the moment in the refrigerated case up in front. Grudgingly the customer agreed to try it and has bought nothing but Sally Lee Frigid meats since.

Mr. Hays is remarkably enthusiastic over the possibilities of quick-frozen products. He has all the arguments in favor of them on the tip of his tongue, and no one of the leaders in the industry can put up a better talk on the advantages of frozen foods than Mr. Hays. As a matter of fact some of the more timid spirits among the producers could possibly find inspiration by paying him a visit.

One of the arguments that Mr. Hays makes has not been much used heretofore. "In a store this size," he says, "I couldn't begin to handle the variety of fresh meats that I have in this case. The Frigid Meats allow me to offer my customers a range of choice which they never have had before."

Enthusiastic Support

The same enthusiastic support of the Sally Lee meats is found in some of the other stores in which they are sold, and it is noticeable that the stores in which they are lagging a bit do not seem to be managed by such actively interested men as Mr. Hays and Mr. DuMouchel. All in all, the campaign is progressing in satisfactory fashion and Muncie housewives are proving by the volume of repeat business that they like the new foods.

Practically no opposition has been heard from on the part of other retail meat dealers. The Indianapolis Abattoir has encountered so little resistance of this kind that one of their representatives, O. G. Robinette, is selling both quick-frozen and fresh meats here. His fresh meat customers joke with him now and then about the frozen cuts, but show no undue excitement on the subject. They are keenly interested in the progress the Frigid Meats are making.

Applications from merchants in nearby cities have been received by the Indianapolis Abattoir, but thus far nothing has been done about putting the Sally Lee Frigid Meats into other towns. Further results of the Muncie campaign will be awaited before any new territory is invaded.

SUBSCRIPTION ORDER

ELECTRIC REFRIGERATION NEWS
550 MACCAULES BUILDING, DETROIT, MICH.

Please enter subscription to *Electric Refrigeration News*.

United States and Possessions: \$2.00 per year. Three years for \$5.00

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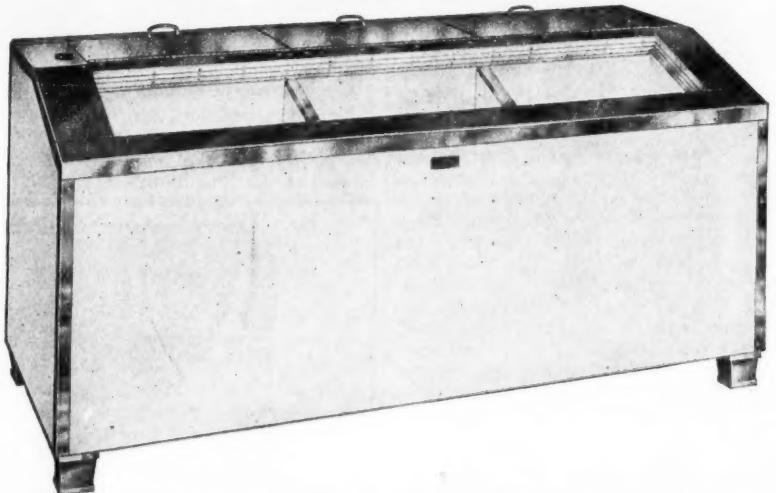
I am enclosing payment in the form of Check P. O. Order Cash

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Address.....

City and State.....

New Freezer Case



Grand Rapids, Mich.—Low temperature display cases for frozen fish, meats, fruits and vegetables are now in production at the plant of the Grand Rapids Cabinet Company here. The Universal Cooler refrigerating unit will be used as standard equipment with the low temperature models. The Grand Rapids company and the Universal Cooler Corporation have been working together on these models.

The new product which will be marketed under the trade name "Zero-Viz" has received the endorsement of the

General Foods Corp., which has been conducting severe tests in Boston on cases submitted by manufacturers.

In addition to an adequate display, the "Zero-Viz" has a large compartment for storage. Both display and storage are constructed so that uniform sub-zero temperatures can be maintained economically. Display front is made up of multiple plate glass.

The Grand Rapids Cabinet Company has been manufacturing low temperature cabinets for ice cream for more than thirty years.

Doing Their Bit

New York, N. Y.: The cold storage industry of the Port of New York has pledged itself to use all of its resources in preventing unemployment within the industry despite poor business conditions, and to do what it can to provide additional employment. Under the leadership of William Fellowes Morgan, Jr., the cold storage men are co-operating with relief agencies. Several plants have offered the free use of their facilities for handling relief supplies.

MINNEAPOLIS ORDINANCE

(Concluded from Page 1, Column 4) er from going into the meat business but does not prevent the meat dealer from going into the grocery business. We have no quarrel with the butcher, in fact, would be glad to sell him our cases, but I do feel he was shortsighted when he asked the council to enact this ordinance.

In my opinion the frozen cuts will not drive him out of business any more than the canned meats have done. In fact, he sells the latter, which have been on the market some time."

At the same time the St. Paul City Council has taken preliminary steps to restrict the retail selling of meats. An ordinance introduced by G. C. Sudheimer, commissioner of public safety, which prohibits the handling of fresh, frozen or uncooked meats, oysters and game except by licensed and qualified butcher shops. About 100 butchers were present at the passage of the ordinance for first reading. Anthony Friedman was their spokesman.

The license requires that to be licensed as a butcher shop a store must have at least 40 sq. ft. of refrigeration space, with a door to the refrigerator not less than 6 ft. in height, and with facilities for maintaining a temperature of 40 degrees or lower.

MARKET EQUIPPED

South Norwalk, Conn.—The local branch of the Carbondale Ice Machine company has installed refrigerating equipment in the Bon Ton Market at Westport.

BIRDSEYE

(Concluded from Page 1, Column 3) will be made by men identified with the development of frozen foods.

The complete program follows:

TUESDAY

Morning Session, starting at 9:30 A. M. Chairman and Presiding Officer, R. S. Alexander, professor of Marketing, Columbia University.

- I. Appraisal of the Frozen Fruit Market Demand, H. W. Ullsperger, manager, Door County Fruit Growers' Union, Sturgeon Bay, Wisc.
- II. Freezing and Distributing Georgia Peaches, W. R. Tucker, Agricultural Development and Immigra-

tion Agent, Atlanta, Birmingham & Coast Railroad Company.

- III. Preparing, Packaging and Shipping Frozen Fruits and Vegetables, Clarence Birdseye, vice-president, General Sea Foods Corporation.
- IV. The Transportation of Frozen Fruits and Vegetables at Low Temperatures, Horace M. Wigley, manager, Safety Refrigeration Corporation.
- V. Display Equipment Requirements in Retailing, C. V. Hill, president of the C. V. Hill & Company, Inc., Trenton, N. J.

Open Forum

During this period, several 5-minute addresses will be given by men who have had experience in special phases of the frozen food development.

Afternoon Session, starting at 2:00 P. M. Presiding Officer, R. S. Alexander.

- I. Preserving and Marketing Frozen Foods in Hermetically Sealed Containers, Edward S. Reynolds, American Can Company.
- II. Keeping Qualities of Frozen Foods and Their Relation to the Distribution Problem, C. A. Magoun, senior bacteriologist, United States Department of Agriculture.

- III. Merchandising Problems and Some Methods of Attacking Them, Marion Harper, vice-president, General Foods Sales Company, Inc.

- IV. Potentialities of the Quick Freezing Process in Preserving the Nation's Food Supply, William J. Jabbine, editor, ELECTRIC REFRIGERATION NEWS.

Open Forum

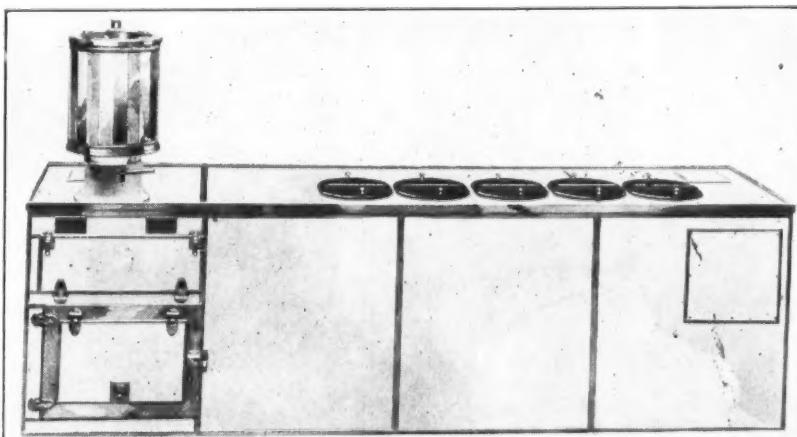
During this period, similar talks to those characterizing the morning session will be given.

AUSTRALIANS KEEP AFTER APARTMENT BUSINESS

Sidney, Australia.—Despite the fact that the people here are not as "refrigerator-minded" as they are in the United States, the Australian General Electric Company, Limited, is installing a large number of General Electric refrigerators. The apartment house business is showing augmented activity, and apartment house owners and operators are installing electric refrigerators in big numbers.

- I. Appraisal of the Frozen Fruit Market Demand, H. W. Ullsperger, manager, Door County Fruit Growers' Union, Sturgeon Bay, Wisc.
- II. Freezing and Distributing Georgia Peaches, W. R. Tucker, Agricultural Development and Immigra-

Mills Enters Field



Chicago, Ill.—A unique new ice cream cabinet and a full line of refrigerated food display cases have recently been announced by the Mills Novelty Co., of 4100 Fullerton Avenue.

The ice cream maker is designed and built for the manufacturing of ice cream in the purchaser's own location. The retailer merely buys the ice cream "mix," pours it into the freezer, which is a part of the cabinet, freezes it, and stores it in the cabinet, ready for serving.

The Mills Company offers four types of refrigerated display cases—the display and storage type in six, eight, ten, twelve and fourteen-foot lengths—top display type in the same standard lengths—delicatessen counter in six and eight-foot lengths and fish counter in six

More than 1,000 food merchants attended the formal display of these products, which was held recently at the Mills plant.

The show was sponsored by the Chicago Retail Meat Dealers' Association, in collaboration with Armour & Company and Swift & Company.

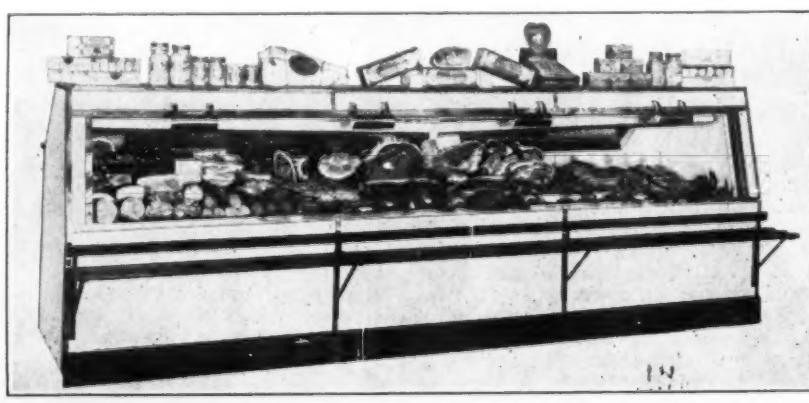
Mills refrigerated display equipment uses Dry Zero for insulation—4 inches in the bottom, 3 inches in the side, and 2 inches on top. Triple glass vision the entire length across the front, and triple glass sliding doors are other features.

At the opening display of the equipment various cases were hooked up with such machines as Frigidaire, Kelvinator, Copeland, Zerozone, Servel and Brunswick-Kroeschell.

Distribution of the new equipment will be through Mills branch and distributor offices located throughout the country.

The Mills Novelty Company is one of Chicago's oldest manufacturing concerns, founded forty-one years ago. A four-story plant, covering more than fifteen acres of floor space, is used for the making of Mills products, which include coin-operated radios, phonographs, and other vending machines.

Officers are: F. L. Mills, president; Ralph J. Mills, vice-president; Herbert S. Mills, treasurer, and Hayden R. Mills, secretary. H. E. Steiner is general sales manager.



One of the Mills New Cases

BAKERY

Cools Many of Its Products

(Concluded from Page 1, Column 5)

Danish goods are made in this way, they will be more crisp.

"As there will be a drying off and crusting of the goods after being placed and left in the refrigerator for any great length of time, they should be washed heavily with an egg wash before placing in refrigeration. If baked with this crust, the goods will be ill-shaped, lack volume, and generally show a bad crack.

"The proofing requires considerable attention. Refrigerated goods will proof faster than unrefrigerated; therefore, as soon as the goods are removed from the refrigerator, they should be placed in the proof box immediately and enough moisture induced to soften any further crusting which may have taken place after the goods were washed at the time of refrigerating. This should be watched very carefully as it is very easy to spoil a piece of Danish, for example, with steam. If there is a crust formation, the goods should show a slight dryness; then they can be washed again with egg wash and proofed in the open shop, or a slightly warm proof box, depending upon how soon you may need the goods.

"When the pieces are entirely made up they can be kept almost indefinitely in refrigeration if the temperature is maintained evenly at about 32 degrees. Goods that have been kept this way for as long as 96 hours, and afterward taken out, are found to have been to all intents and purposes frozen, and require about 15 minutes' proof or steam.

"Owing to the fact that goods will sweat to a certain extent while in refrigeration, it is well to use waxed paper on the pans.

"Finally, keep in mind that even though the temperature of refrigeration is kept down to 36 degrees, there will nevertheless be a slow aging or mellowing effect."

Polly Ann Bakery Equipped

In the photograph which appears on the first page, Walter Terry, proprietor of the Polly Ann Bakery, 1000 Guerrero Street, San Francisco, illustrates in a practical way the points brought out in Mr. Whitehead's talk.

First and foremost, Mr. Terry puts the sales value of offering refrigerated cream goods, sure to be fresh and unspoiled; and hot goods four times a day, baked as needed during the four "rush periods" of the day (7 to 9 a. m., 12 noon till 2 p. m., 4 to 6 p. m., and 9 to 11 p. m.) from pieces made up for the most part in the afternoon of the preceding day and refrigerated. Best of all, the Frigidaire that Terry uses is so placed in the wall between his salesroom and the bakeshop that the top of the refrigerator forms a display case where customers in the salesroom can see in all their glory the refrigerated and tempting sweet cream goods; while the lower part of the same refrigerator opens toward the bakeshop and is used for the keeping of the ingredients and the made-up pieces for the sweet goods that are to be baked and served hot.

Terry also finds that the refrigerator means a tremendous saving of products that, unrefrigerated, would go to waste, as he no longer has to worry about mis-calculating the day's needs—anything unsold will keep for the next day with no fear of becoming stale.

MARINETTE CO. TO MARKET LOW TEMPERATURE CASES

Marinette, Wis.—Assets of the Automatic Freezer Corporation of Hillsdale, Mich., have recently been acquired by the Marinette Show Case Company of this city. According to present plans, the Marinette Company will market a complete self-contained freezer display case for frozen foods.

The Automatic Freezer Corp. had its headquarters in Detroit up until about a year ago, when operations were transferred to Hillsdale. It manufactured the Care Free sulphur dioxide refrigerating systems.

W. C. Campbell is president of the Marinette Show Case Co., S. C. Miller vice-president, C. T. Klaver secretary, and M. D. Bird treasurer. Ray W. Neuman is manager.

VENDING MACHINES FOR GASOLINE STATIONS

New York, N. Y.—"Gasoline filling stations are providing a huge new market for vending machine equipment designed to retail drinks and ice cream," says H. W. Alexander, automatic merchandising engineer.

"Average filling stations cost \$40,000 each. Oil companies have been erecting these by the thousand over the country side. Many of these companies are anxious to utilize such sidelines as vending machines to help cut down the overhead expense these stations entail in the merchandising of gasoline."

Refrigerator Cabinet
Number

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Buyer's Guide Section

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

In Three Parts
Part Three

The business newspaper of the refrigeration industry

ISSUED EVERY TWO WEEKS
VOL. 5, NO. 7, SERIAL NO. 109

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DETROIT, MICHIGAN, DECEMBER 3, 1930

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FIFTEEN CENTS PER COPY
TWO DOLLARS PER YEAR

Seeger Artisans Take Pride In Versatility

Factory Set Up to Handle Special
Jobs On Line Production Basis

St. Paul, Minn.—There's one thing stressed by members of the Seeger Refrigerator Company when they take you through their plant, and that's versatility. Many plants, you will hear, are equipped to produce a few standard types of refrigerator cabinets. Seeger production engineers take great pleasure in redesigning their whole layout to make an entirely new job.

The most important room in the whole factory, the visitor is informed, is the experimental laboratory. Herein may be found half a dozen or so engineers bending over blue prints, completely surrounded by slide rules and calipers. In the laboratory are a number of partly or wholly finished cabinets, all being studied for various purposes.

According to Walter Seeger, vice-president of the company, it is the special custom-built job which makes these men happy. Their chief delight is in figuring out new applications of the refrigerator cabinet for out-of-the-run places and purposes. Change and variety are the big words in their lives.

Once this impression of the Seeger production staff is duly driven home, the visitor is guided through the plant. And, if he has learned his first lesson well, he is surprised. The factory is not, as he suspected, a hand-labor proposition. Line production methods prevail.

Not only are the various parts of the refrigerator cabinets brought together in an assembly line, but the raw materials used in making these parts are moved in the same straight-line fashion.

The notable feature of this mass production scheme is its pliability. It can be adapted to almost any number of variations in the product, so long, of course, as the product is a refrigerator cabinet.

The factory is uniquely designed. For instance, the porcelain enameling department is extraordinarily compact—made so by a judicious arrangement of equipment, and a corkscrew conveyor system. Another room which shows the result of careful planning to achieve speed and efficiency is the welding department, which produces a remarkably large quantity of work per square foot of floor space.

All through the plant workmen may

(Concluded on Page 2, Column 1)

Cold Storage Room Is Readily Built

By L. T. Sibley,
United Cork Companies

THERE are a great many commercial enterprises such as restaurants and food service establishments, and institutions such as hotels, hospitals, etc., where cabinets will not meet the refrigeration requirements. Built-in cold storage rooms are usually desirable for jobs such as these.

The built-in cold storage room usually can be placed in a corner of a room, utilizing the building walls for at least two of the walls of the room. The other two walls may then be built out of solid insulating material with Portland cement plaster finish on the inside of it. The two building walls should be insulated directly against the structural walls and given a finish of Portland cement plaster inside.

The floor of the building, as well as the ceiling of the room in which the cold storage room is located, can usually be used if insulated properly. A concrete floor may be laid directly on top of the corkboard, and the ceiling may be finished with Portland cement plaster.

A cold storage room is very readily and economically set into one of the walls, and the only remaining thing necessary to turn this built-in room into a refrigerated room is to install the coils, hook them up to electrical refrigeration.

(Concluded on Page 2, Column 3)

Veteran



E. E. McCRAY, president and founder of the McCray Refrigerator Co., has been building commercial refrigerators for 41 years.

NEXT ISSUE

Refrigerating units will be featured in the next Buyer's Guide section.

Beauty Can Be Had In Water Coolers

By William J. Miskella, M. E.,
Consulting Engineer on Finishes and
Finishing Problems

I WAS sitting in the well appointed office of an industrial executive the other day trying to keep my mind on the matter we were discussing, when the executive asked, "What is over in that corner that seems to distract your attention?"

"Frankly," I answered, "It is the water cooler—it doesn't fit in with the rest of the furnishings in your office."

Here was what might be called and classed a moderately furnished office—high-class flat top desk, comfortable chairs, up-to-date filing cabinets, and a good rug—all of harmonious design and color. The office furnishings, even to the last detail, had been selected with great care and due regard for the impression they might make on the visitors of the corporation's general offices.

On the other hand, there was the water cooler, an antedated, ice-cooled job. The only redeeming feature it had was the clear crystal water which was visible in the inverted bottle. Supporting it was a cylindrical cheese-shaped tank which held the ice. This part of the outfit was painted an irritating shade of green, and decorated with two broad bronze stripes.

Worst of all, it had a large ugly decal-

(Concluded on Page 5, Column 5)

Cabinet Designs Interest Home Architects

Electric Refrigeration Considered Essential Kitchen Equipment

AN electric refrigerator has become an essential part of the modern home. Apartment house owners are learning that unless their honeycomb dwellings are fully equipped with ice-cubemakers, difficulty is encountered in securing desirable tenants. Builders of homes consider electric refrigeration to be as necessary in a complete home as heating apparatus, kitchen cabinets, and guest rooms.

The architect, then, has been brought face to face with the problem of what to do with the electric refrigerator. In designing the kitchens of apartments and homes he must allow space for the refrigerator cabinet, and do his best to match its design with the general scheme of the kitchen.

To help architects do accurate planning, this Buyer's Guide Section of ELECTRIC REFRIGERATION NEWS presents a chart of specifications for refrigerator cabinets made by the companies advertising in this issue.

Included in the chart is information not only on the dimensions and capacities of the various cabinets, but on the construction, finish, materials, and colors used, as well. Thus the architect can be guided toward harmonization of the refrigerator with its surroundings.

The problem of matching electric refrigerators with other kitchen equipment is a matter which has been getting considerable attention recently from manufacturers. At first the cabinets were styled similarly to the ice boxes which they were replacing. The idea of harmonization had not yet appeared.

Now that electric refrigerators are becoming standard equipment in new homes, however, manufacturers are beginning to do some thinking about colors, proportions, and adaptability in the designs of their products. In this section two electric refrigerators of the built-in variety are pictured, and in the specification chart various manufacturers indicate that special colors may be obtained if desired.

Co-operation between architects and designers of electric refrigerators is a logical development. Since the problem of harmonization is a mutual one, the two groups should accomplish a great

(Concluded on Page 2, Column 2)

Enter the Built-in Refrigerator



The palatial residence pictured above was erected recently at Gates Mills, Ohio, for Edwin C. Higbee, business man and polo player of Cleveland. Below at the left is shown a G. E. refrigerator and water cooler in the butler's pantry of this home, while at the right is a view of the main kitchen, which contains an unusually large domestic refrigerator. These jobs were built-in especially to an architect's specifications, and are indicative of the trend in fine home installations.



Seeger Factory Officials Stress Versatility

(Concluded from Page 1, Column 1)
be seen applying interesting little tricks of the trade and "wrinkles" to their job. Although line production methods are used, the workman's job is not entirely confined to the motions of an automaton. He attains speed and achieves versatility through the application of skilled craftsmen's ideas to his labor. Just as an example of one of these "wrinkles," one might point out the man who uses an electric iron to seal insulation in hot hydrolene.

The most arresting feature of the plant is the spiral chute down which boxed cabinets travel to the warehouse room. Built on the principle of the chute-the-chutes which are the delight

of pre-teen-age children, this "conveyor" begins on the top floor of the factory and ends on the ground level, after volplaning to the bottom like a circular staircase.

Needless to say, the boxed cabinets attain great speed in their descent. After emerging from the chute, they scoot around the storage room on a roller conveyor. When their motion is spent they are placed in their proper position in the wareroom to await shipment.

ARCHITECTS SHOULD WORK WITH DESIGNERS

(Concluded from Page 1, Column 5)
deal toward its happy solution by working together.

The inevitable result must be more beautifully designed refrigerator cabinets and kitchens.

Cold Storage Rooms Fit Special Needs

(Concluded from Page 1, Column 2)
and equip the room with shelves, racks, etc.

Obviously this method of construction is a very economical one. Its efficiency in preventing loss of heat is unquestionable. The built-in room is in reality a small cold storage room similar to the type of installation made for our largest cold storage warehouses. Furthermore, the built-in room becomes a permanent part of the building.

The Portland cement plaster inside and outside gives an absolutely sanitary finish to the room. It may be washed whenever necessary. All corners may be covered so that there are no crevices for food particles to collect in.

Off Duty in St. Paul

By GEORGE F. TAUBENECK

hillsides up there in tempting numbers. It's a paradise for Dead-Eye Dicks and One-Shot Harrys.

Fishing, too, is to be had in abundance. To those who are devotees of the Sport of Presidents, the Twin Cities region presents bounteous supplies of trout, black bass, muskies, and landlocked salmon.

The funny tribes long ago placed official seals of approval upon this country, and refuse to be driven out of it, no matter how many determined fly-casters and hook-baiters may appear.

Further evidence that an unusually stout and intrepid wave of frontier-pushers once swept over these northern lands is exhibited by the men one sees everywhere.

Scandinavians and Germans predominate. Flaxen-haired, blue-eyed, ruddy-cheeked, they are as typical of the outdoors as pine trees. And many of them seem that tall.

In New York and Chicago we noticed the good-looking women. In Minneapolis and St. Paul we were impressed by the handsome men. Vikings, all of them, as restless, romantic, and turbulent as the waves their forbears conquered in toy vessels to come here.

Speaking of big, rugged, healthy men brings us around to the University of Minnesota, which is located in Minneapolis. Time was when this school's football teams were as invincible as Notre Dame seems to be at present.

Leaving the fields strewn with human wreckage, Minnesota's juggernauts crushed opposing elevens like a steam road-roller. Playing Minnesota in those days was simply equivalent to consigning the major part of your squad to the hospital.

The advent of the forward pass and the open game, however, has changed conditions a bit. They still grow 'em big up there in Minnesota, and year in and year out the Gophers foster some of the most physically powerful teams in the country.

Today, however, the race is not to the heavy, but to the swift; and the blond giants from the North are no longer monarchs of all the gridirons they survey.

It gets cold in Minneapolis and St. Paul—colder than is reasonably comfortable. Yet the girls in the Twin Cities insist on wearing short skirts and silly stockings right through the worst of it.

Of all places, one would think the present vogue for longer and thicker skirts would strike low-temperature cities first. But not here.

Perhaps this persistence of the exposed knee is just another expression of the hardihood of Twin City residents, and of their pioneer ancestors.

Industries of an astonishing variety are present in goodly numbers. From flax-straw insulation to mechanical hoists the scale runs, with all the octaves in between. Both cities are as busy as department stores at Christmas time. They are thriving trading centers for a spacious area.

Again this multifariousness of industrial projects is indicative of the daring and scorn of difficulties which is a pioneer heritage. Representative men of St. Paul and Minneapolis refuse to be daunted by apparently huge obstacles. They go out and do the job anyhow.

Dealers . . .

make sure your salesmen know these 5 facts about insulation

NOTHING is more vital to efficient and economical refrigeration than a *properly insulated* cabinet. Yet thousands of retail salesmen are skimming lightly over the subject of insulation—instead of making it a powerful factor in closing sales.

Dealers know of the vigorous swing toward Celotex Refrigerator Insulation. They know how 36 leading refrigerator manufacturers, after searching for years

for the best all-round insulating material, are now using Celotex.

The reasons for this trend are based on sound, common sense. If the refrigerators on your floor are insulated with Celotex see that every one of your salesmen is thoroughly posted on the reasons why.

Make sure they cash in on this latest improvement in cabinet construction. Tell them to use these 5 convincing arguments in every sales-talk:

1. No heat-leaking cracks or joints. Each insulated area is covered with a *single board* of Celotex, cut to just the right length, width and thickness. There is no "patchwork" of pieces, full of leaky joints and cracks.

2. Maximum insulating efficiency. The Celotex in your cabinets is a special kind of Celotex, fabricated by processes that increase its effectiveness to the highest practical point—and meeting the strictest requirements of leading refrigerating engineers.

3. Stronger, more substantial cabinets. Celotex reinforces the framework of cabinets, adds lasting structural strength to walls and doors, gives your customers the desired impression of durability. Yet its lightness in weight keeps the cabinet light and mobile.

4. Clean, odorless, sanitary. Celotex is made from long, tough fibres of cane that produce its remarkable insulating efficiency. These fibres are carefully sterilized. They are entirely odorless. They are waterproofed to resist the absorption of moisture. No insulation could be more sanitary.

5. A tremendous popular preference. The very name Celotex has become a household word for superior insulation. Men and women everywhere are already convinced of its effectiveness. When you talk Celotex insulation you have the weight of this nation-wide preference behind every word you say.

CELOTEX
BRAND
INSULATING CANE BOARD
REFRIGERATOR INSULATION

THE CELOTEX COMPANY, 919 NORTH MICHIGAN AVENUE, CHICAGO, ILLINOIS
Sales distributors throughout the World. In Canada: Alexander Murray & Co., Ltd., Montreal

The leading refrigerator manufacturers are using our Double Seal and special gaskets made for their requirements. We will be glad to figure on your problem.

Specialists in refrigeration gaskets.

The D.W. Bosley Company
906 Marquette Bldg.
Chicago, Ill.





A NEW DEVELOPMENT

BY

Seeger

SAINT PAUL

IN SEVERAL SIZES

REFRIGERATOR CABINET SPECIFICATIONS

Group Charting of Cabinets Made By Manufacturers Advertising in This Issue

Domestic Cabinets

Name and Address	Model No.	No. of Doors	Capacity Cu. Ft.	Shelves Sq. Ft.	Width Inches	Depth Inches	Height Inches
Copeland Products, Inc.	D-66	2	6.6	11.4	32 1/4	24 1/4	50 1/4
332 Cass Avenue Mt. Clemens, Mich.	D-9	2	9	15	39 1/4	24 1/4	57 1/4
(See advertisement on page 2 of white section)	D-11	2	11	16	39 1/4	24 1/4	59 1/4
Copeland Products, Inc.	D-15	2	15	22	47 1/4	25 1/4	66 1/4

Wood and steel. Two to four inches of wrapped corkboard insulation, plus one-half inch Celotex on bottom. Exterior: White vitreous porcelain on Armclo iron. Interior: White vitreous porcelain on Armclo iron, with rounded corners. Hardware: Two tone chromium plate, DeLuxe design, automatic. Compartment for compressor unit.

P-45	1	4.5	9.5	26	22 1/4	46 1/4
P-55	1	5.5	8	26	23 1/4	54
P-66	2	6.6	11.4	32 1/4	24 1/4	50 1/4

Wood and steel. Two and three inches of Celotex insulation, plus one-half inch on bottom. Exterior: White vitreous porcelain on Armclo iron. Interior: White vitreous porcelain on Armclo iron, rounded corners. Hardware: Two tone chromium-plated, automatic. Compartment for compressor unit.

A-45	1	4.5	9.5	26	22 1/4	46 1/4
A-55	1	5.5	8	26	23 1/4	54
A-66	2	6.6	10.5	32 1/4	24 1/4	50 1/4

Wood and steel. Two and three inches of wrapped Celotex insulation, plus one-half inch on bottom. Exterior: White pyroxylin lacquer on steel. Interior: One piece white vitreous porcelain on Armclo iron with rounded corners. Hardware: Two tone chromium plate, automatic. Compartment for compressor unit.

G-3	1	3	4.5	24	19	48 1/4
G-4	1	4	6	24	19	53 1/2
G-5	1	5	8	28 1/2	24	56 1/4
G-6	1	6	10	30 1/2	23	47 1/4
G-7	1	7	12	33	28	62

Steel and wood. Exterior: Gray porcelain on steel. Interior: Gray porcelain on steel. Hardware: Nickel-plated. Compartment for compressor unit.

AP-4	1	4	8	26 1/4	23	48
AP-5	1	5	8	28 1/2	24 1/2	58 1/2
AP-6	1	6	9.5	31 1/4	24 1/2	60 1/4
AP-7-1	1	7	11	33	28	62
AP-7-2	2	7.5	12	35 1/4	28	62

Steel and wood. Exterior: White-gray porcelain on steel. Interior: White porcelain on steel. Hardware: Chromium plated, except models AP-4 and AP-5, which are nickel-plated. All models except AP-18 have compartment for compressor unit.

S-42	1	4	7 1/2	24-1/16	21 1/4	63 1/4
S-62	1	6	10 1/2	28 1/4	22 1/4	66 1/4
S-100	2	10	18	44 1/4	23 1/4	65
S-140	2	13	22	54 1/4	24 1/4	66 1/2
S-180	2	17	28	65	26 1/4	68 1/4

All steel. Exterior: Sanak. Interior: Porcelain. Hardware: Chrome plate. Compartment for compressor unit.

Cabinet S-22 can be furnished as an ice freezer (12 trays, 30 lbs. of ice at a time). Interior: Porcelain. Hardware: Chrome plate.

PS-5	1	5 1/2	9	28 1/2	21 1/2	66 1/2
PS-7	1	7 1/2	12 1/2	34 1/2	25 1/2	69 1/4
PS-9	2	10	18	44 1/2	23 1/2	68 1/4
PS-13	2	13	20	48	24 1/2	71 1/4
PS-17	3	17	25	61 1/2	24 1/2	71 1/4
PS-18	4	17	24	44	27 1/2	81

All steel. Exterior: Porcelain. Interior: Porcelain. Hardware: Chrome plate. Compartment for compressor unit.

S-4	1	4	8	25 1/4	23	48 1/2
S-5	1	5	10.2	25 1/4	23	54 1/4
S-7	1	7	13	31 1/2	26 1/4	54 1/4

Porcelain on steel, wood frame. Two inches of Kelvatek insulation. Exterior: Gray body, white doors and top. Interior: White porcelain, rounded corners. Hardware: Butler chrome, dull finish. Compartment for compressor unit. All except D-6 electrically lighted interior.

D-6	2	6	11	34 1/4	27 1/4	53 1/2
D-8	2	8	14.8	35	27 1/4	60 1/2
D-11	2	11.25	20	48	28 1/4	62 1/4
D-14	2	14.2	25	48	28 1/4	69 1/4
D-22	3	22	38	67 1/4	28 1/4	69 1/4

Porcelain on steel, wood frame. Two and one-half inches of Kelvatek insulation. Exterior: White with gray trim. Interior: White porcelain, rounded corners. Hardware: Butler chrome, dull finish. Compartment for compressor unit. All except D-6 electrically lighted interior.

Yukon 5/1	5	9.16	27 1/4	26 1/4	50
Yukon 7/1	7	12.5	31 1/2	25 1/4	53 1/2

One-piece steel. Two and one-half inches of Kelvatek insulation. Exterior: White lacquer enamel on rustproof stock. Interior: One-piece porcelain, rounded corners. Hardware: Butler chrome, dull finish. Compartment for compressor unit.

A5-36	1	4	8.5	24	21 1/2	66 1/4
A5-48	1	5	8.5	24	21 1/2	67 1/2
A6-54	1	6	10	27 1/2	21 1/2	68 1/2

Bonded steel, wood frame. Two inches of Kelvatek insulation. Exterior: Baked white enamel. Interior: White porcelain, rounded corners. Hardware: Nickel-plated. No compartment for compressor unit (for multiple installation). Bottom compartment is a vegetable bin.

LE-S40	1	4	8	24	20 1/2	36
LP-S40	1	4	8	24	20 1/2	36
LE-M40	1	4	8	24	20 1/2	40
LP-M40	1	4	8	24	20 1/2	40
LE-H40	1	4	8	24	20 1/2	55 1/2
LP-H40	1	4	8	24	20 1/2	55 1/2
LE-500	1	7	9	26 1/2	22 1/2	57 1/2
P500	1	7	9	26 1/2	22 1/2	57 1/2
LEJ550	2	5.5	9	30 1/2	20 1/2	48 1/2
LPJ550	2	5.5	9	30 1/2	20 1/2	48 1/2
LPJ70	2	7	11.1	35		

SPECIFICATIONS

Water Coolers

Name and Address	Model No.	Gals. Pr. Hr.	Width Inches	Depth Inches	Height Inches
General Electric Co. 530 Hanna Bldg. Cleveland, Ohio	DP-1	5	19	19	40 1/2
(See advertisement on page 3 of white section)					
	DP-3	12	20 1/2	20 1/2	41 1/2
	Pressure type. Exterior: Laquer. Air-cooled condenser. Bubbler: Sanitary angle stream. 80° F. inlet cooled 30° F.				
	DB-1	2	18 1/2	22 1/2	59 1/2
	BW-10	3 1/2	18	19 1/2	47
	Bottle type. Exterior: White or bronze lacquer. Depth measured over waste basin. Height includes bottle.				
	CW-20	3 1/2	18	19 1/2	47
Kelvinator Corp. 14250 Plymouth Rd. Detroit, Mich.					
(See advertisement on page 5 of white section)					
	CW-30	3 1/2	18	19 1/2	47
	CW-40	6	18	19 1/2	47
	Pressure type. All steel cabinet. Exterior: White lacquer, sage green crystal, or mahogany. Porcelain top. Height does not include bottle. Depth includes receptor.				
	CW-50	3 1/2	18	19 1/2	47
	CW-60	6	18	19 1/2	47
	Same general specifications as Models CW-30 and CW-40. Includes, in addition, porcelain lined Armcro iron bottle storage department. Door equipped with chromium plated hardware.				
	CW-70	3 1/2	23	16 1/2	39
	CW-72	6	23	16 1/2	39
	Pressure type. Copper-bearing furniture steel cabinet. Exterior: Sage green crystal (other colors on special order). Porcelain top. Angle-stream bubbler, non-squirt bubbler. Top, bottom and sides insulated with corkboard.				
	220-I	20	34 1/2	23	18
	350-I	30	41	38	20
	Self-contained industrial type. Exterior: Gray Krinlac. Receptors finished in porcelain. Insulation: Two inches of corkboard and Balsam Wool.				
	400-I	30	48 1/2	17 1/2	15 1/2
	650-I	60	48 1/2	17 1/2	15 1/2
	900-I	80	48 1/2	17 1/2	15 1/2
	Dead end remote type. Exterior: Gray Krinlac. Receptors finished in porcelain. Insulation: Two inches of corkboard and Balsam Wool.				
	900-CR	80	48 1/2	17 1/2	15 1/2
	2000-CR	160	36	24	15 1/2
	Cabinets for circulating systems. Exterior: Gray Krinlac. Receptors finished in porcelain. Insulation: Two inches of corkboard and Balsam Wool.				
	656-R	60	48 1/2	38	34
	906-R	80	48 1/2	38	34
	Self-contained restaurant type. Exterior: White Duco or porcelain. Insulation: Two inches of corkboard and Balsam Wool.				
	401-R	30	44 1/2	17 1/2	24
	651-R	60	44 1/2	17 1/2	24
	901-R	80	44 1/2	17 1/2	24
	402-R	30	44 1/2	33 1/2	24
	652-R	60	44 1/2	33 1/2	24
	902-R	80	44 1/2	33 1/2	24
	403-R	30	44 1/2	18	18
	653-R	60	44 1/2	18	18
	903-R	80	44 1/2	18	18
	404-R	30	44 1/2	34	18
	654-R	60	44 1/2	34	18
	904-R	80	44 1/2	34	18
	405-R	30	26	17 1/2	24
	655-R	60	26	17 1/2	24
	905-R	80	26	17 1/2	24
	Remote installation restaurant type. Exterior: White Duco or porcelain. Insulation: Two inches of corkboard and Balsam Wool.				
	EL-30		18	18	42
	Bottle type. Two inches of corkboard insulation. Exterior: Gray or olive green lacquer.				
	50-AJ		18	18	42
	Pressure type. Two inches of corkboard insulation. Reserve of 4 gallons cooled water. Exterior: Gray porcelain top, gray lacquer sides. Other models for cafeterias, factories, and other heavy duty service.				
	Universal Cooler Corp. 18th and Howard Sts. Detroit, Mich.				
	(See advertisement on page 15 of white section)				

Milk Coolers

Name and Address	Model No.	No. of Doors	Length Inches	Depth Inches	Height Inches
General Electric Co. 530 Hanna Bldg. Cleveland, Ohio	MC	2	73 1/2	35 1/2	56 1/2
(See advertisement on page 3 of white section)					
	4	1	38 1/2	38 1/2	38 1/2
	6	1	54 1/2	38 1/2	38 1/2
	8	2	70 1/2	38 1/2	38 1/2
	10	2	86 1/2	38 1/2	38 1/2
	12	2	102 1/2	38 1/2	38 1/2
	All steel. Exterior: Moss green enamel. Three and four inches corkboard insulation. Rack for cans.				
	(See advertisement on page 15 of white section)				

Space Economy



Compact Copeland installation made by B. I. Cooper of Syracuse, N. Y.

Color Expert Likes Modern Water Coolers

(Concluded from Page 1, Column 4) comania transfer which carried the billboard advertisement of the water vending company. The parts of the outfit just described were mounted on a detached, flimsy, twisted wire stand furnished in oxidized copper, while an ordinary tin can was provided to catch the drips from the inadequately nickel-plated and ugly faucet.

Here was a most interesting picture. A water-vending company had been able to sell its water contracts regardless of the design of the vending device.

We talked further along this subject of artistic equipment when the executive pressed a button which summoned the office manager. He brought in a national magazine and turned to a page advertising a new electrical refrigerating unit to which he pointed, saying as he did so, "Look at this."

It was finally agreed to have the new refrigerating unit installed if the company would make it harmonize with the rest of the furniture.

This is only one of the many instances where product engineers have succeeded in creating a design for an important article to sell at a fairly high price, something of a pleasing design to take the place of that which had previously served only to barely supply the demand for the need. Other examples are electric fans, ink wells, waste paper baskets, and the like.

Already there is a tendency in industry to adopt aesthetic principals to even large units of equipment, which have heretofore been constructed from a purely utilitarian point of view. Thus grace, symmetry, and color are fast becoming important design factors, in addition to that of mechanical perfection. The time for dressing up the appearance of objects with a mere coat of paint is passing. Due consideration is being given to the beauty and the lines of the machine or product—even to the machinery which is to be installed in a power plant. Though this machinery is rarely seen by the public, it does have its effect upon the workmen employed there.

There is a liberal disposition on the part of progressive manufacturers to consider the question of assimilation of their product with other articles which may be replaced nearby. Particularly is there an absence of the desire to splash a trade name all over the product, regardless of where the device is to be placed. Advertising is not being done that way these days. The green (and nothing but green) water cooler is being superseded by a friendly offer on the part of the manufacturer to furnish a variety of designs and color combinations. And all of these are available within a range of prices intended to fit almost any pocketbook. Thus the customer with artistic sensibilities can buy office equipment which blends and harmonizes, rather than the sort which clashes.

Ice Cream Cabinets

Name and Address	Model No.	No. of Holes	Length Inches	Depth Inches	Height Inches
Kelvinator Corp. 14250 Plymouth Rd. Detroit, Mich.	11821	2	47 1/2	20 1/2	28 1/2
(See advertisement on page 5 of white section)	11822	3	58 3/4	20 1/2	28 1/2
	11823	4	47 1/2	30 1/2	28 1/2
	Portable type. Exterior: Sheet steel, rust proofed, finished in black enamel. Monel metal top. Three to three and one-half inches Celotex insulation.				
	11306	2	35 1/2	20 1/2	30
	11307	3	46 1/2	20 1/2	30
	11308	4	58	20 1/2	30
	Single row remote type. Exterior: Rust proof furniture steel panels, finished in black lacquer. Monel metal top. Two to four inches corkboard insulation.				
	11300	4	35 1/2	30	30
	11301	6	46 1/2	30	30
	11302	8	58	30	30
	11303	10	69 1/2	30	30
	11304	12	80 1/2	30	30
	11310	4	57 1/2	30	30
	Double row remote type. Exterior: Rust proof furniture steel, finished in black lacquer. Monel metal top. Two to four inches corkboard insulation. Model 11310 equipped with compartment for bottled goods.				
	1C	4	80 1/2	20 5/8	30 1/2
	Self-contained single row type. Exterior: Black lacquer on steel. Monel metal top. Capacity: Four five-gallon cans.				

DRY-ZERO MOVES

Chicago, Ill.—The world's largest building, the Merchandise Mart of this city, has a new occupant. On December 1 the Dry-Zero Corp. moved to enlarged quarters in this building.

Metal Stampings

Unit Bases and Guards

Household Refrigerator Metal Panels—Exterior or Inside Panels and Food Compartments. Louvered Panels—Special Trays or Panels—Water Cooler Panels.

MOTORS METAL MFG. CO.
5936 MILFORD AVE. DETROIT, MICH.

DRINKING WATER FAUCETS

for
Refrigerators—Water Coolers
New model now available for
use on city water pressure



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REFRIGERATION RUBBER WARE

Manufacturers of molded insulation for commercial and domestic refrigerator cabinets. Materials and parts developed to meet the exacting requirements of refrigeration efficiency

THE AETNA RUBBER CO.
ASHTABULA, OHIO



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Muskegon, Mich.

American Ice Machine Co.
212 N. Jackson, Glendale, Calif.

Anderson Showense Mfg. Co.
321 N. E. Filmore St., Minneapolis, Minn.

Arlington Refrigerator Co.
Arlington, Vt.

Baldwin Refrigerator Co.
Pine St., Burlington, Vt.

Belding-Hall Refrigerator Co.
Belding, Mich.

Benjamin Electric Mfg. Co.
Des Plaines, Ill.

Bohn Refrigerator Co.
1550 University Ave., St. Paul, Minn.

Brooks Cabinet Co., Inc.
1028 W. 27th St., Norfolk, Va.

Cabronette Corp.
Michigan City, Ind.

Champion Refrigerator Co.
131 E. 34th St., New York, N. Y.

Copeland Sales Co.
332 Cass Ave., Mt. Clemens, Mich.

Crystal Refrigerator Co.
Fremont, Neb.

Downing Mfg. Co.
Downing, Wis.

Drayer & Hanson, Inc.
738 E. Pico St., Los Angeles, Calif.

Duluth Refrigerator Co.
Duluth, Minn.

Electro-Kold Corp.
151 South Post St., Spokane, Wash.

Electrolux Refrigerator Sales, Inc.
Evansville, Ind.

C. F. Fabien Refrigerator Co.
2471 Cunegonda St., Montreal, Que., Can.

Fairfield Mfg. Co.
82 Johns St., Portland, Me.

Federal Asbestos & Cork Insulation Co.
931 30th St., Milwaukee, Wis.

Ford Refrigerator Co.
219 Mary St., South Jacksonville, Fla.

Frigidaire Corp.
Dayton, Ohio

General Electric Co.
Hanna Bldg., Cleveland, Ohio

General Steel Wares, Ltd.
Toronto, Ontario, Can.

Gibson Refrigerator Co.
Greenville, Mich.

Bernard Glockler Co.
1627 Penn Ave., Pittsburgh, Pa.

Gurney Refrigerator Co.
Fond du Lac, Wis.

Harder Refrigerator Corp.
Cobleskill, N. Y.

Hart & Burmeister
Jerrold at Napoleon, San Francisco, Calif.

Heinz & Munschauer
20 Superior, Buffalo, N. Y.

John Herrel & Sons Co.
244 Gear St., Columbus, Ohio

Herrick Refrigerator & Cold Storage Co.
1019 Commercial, Waterloo, Iowa

Holbrook, Merrill & Stetson
903 N. Main St., Los Angeles, Calif.

Hygrade Refrigerator Corp.
341 Scholes, Brooklyn, N. Y.

Illinois Moulding Co.
2411 W. 23rd St., Chicago, Ill.

Illinois Refrigerator Co.
Morrison, Ill.

Jewett Refrigerator Co.
2 Letchworth St., Buffalo, N. Y.

J-T Mfg. Co.
5200 Centennial Blvd., Nashville, Tenn.

Kelvinator Corp.
14250 Plymouth Rd., Detroit, Mich.

La Crosse Refrigerator Co.
La Crosse, Wis.

Leonard Refrigerator Co.
14260 Plymouth Rd., Detroit, Mich.

Louisville Tin & Stove Co.
Louisville, Ky.

Merchant & Evans
2035 Washington St., Philadelphia, Pa.

Majestic Household Utilities Corp.
5801 Dickens Ave., Chicago, Ill.

McCrory Refrigerator Co.
Kendallville, Ind.

McKee Refrigerator Co.
Cobleskill, N. Y.

L. H. Mace & Co.
150th St. & River Ave., New York, N. Y.

Metz Products Corp.
3051 Rosslyn St., Los Angeles, Calif.

Norge Corp.
670 E. Woodbridge, Detroit, Mich.

Modern Refrigerator Co.
Belleville, Ill.

Northey Mfg. Co.
Waterloo, Iowa

North Star Refrigerator Co.
Chattanooga, Tenn.

Ohio State Stove & Mfg. Co.
Buttles Ave., Columbus, Ohio

Ottenheimer Bros., Inc.
Fallsway & Hillen Sts., Baltimore, Md.

Progress Refrigerator Co.
621 W. Main St., Louisville, Ky.

Puffer-Hubbard Mfg. Co.
26th & 32nd Ave., Minneapolis, Minn.

Renfrew Refrigerator Co., Ltd.
Renfrew, Ontario, Canada

Rex Mfg. Co.
Connorsville, Ind.

Rhinelander Refrigerator Co.
Rhinelander, Wis.

Robinson Refrigerator Works
3612 W. Pershing Rd., Chicago, Ill.

Ruddy Mfg. Co., Ltd.
Brantford, Ont., Canada

Sanderson-Harold Co., Ltd.
Paris, Ontario, Canada

Sanitary Refrigerator Co.
Oak Place, Fond du Lac, Wis.

Seeger Refrigerator Co.
Wells & Arcade Sts., St. Paul, Minn.

Servel Sales, Inc.
Evansville, Ind.

Smoot-Holman Co.
312 Euclid Ave., Inglewood, Calif.

Starr Piano Co.
Richmond, Ind.

Steel-Craft Mfg. Co.
4617 Arthington St., Chicago, Ill.

Success Mfg. Co.
Gloucester, Mass.

Super Oil Heater Sales Co.
275 Connecticut Blvd., Hartford, Conn.

Tacoma Metal Refrigerators, Inc.
1307 Pacific Ave., Tacoma, Wash.

Tennessee Furniture Corp.
Chattanooga, Tenn.

Trupar Mfg. Co.
140 Davis Ave., Dayton, Ohio

Viking Refrigerators, Inc.
7500 Independence Rd., Kansas City, Mo.

Ward Refrigerator Co.
6501 S. Alameda, Los Angeles, Calif.

Wayne Home Equipment Co.
Fort Wayne, Ind.

Westinghouse Elec. & Mfg. Co.
Refrigeration Dept.

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Williams Oil-O-Matic Heating Corp.
Bloomington, Ill.

Zerozone Corp.
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Baldwin Refrigerator Co.
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Clearfield, Pa.

Belding-Hall Refrigerator Co.
Belding, Mich.

Benjamin Electric Mfg. Co.
Des Plaines, Ill.

Blazek & Co.
2232 W. Lake St., Chicago, Ill.

Bohn Refrigerator Co.
1550 University Ave., St. Paul, Minn.

R. H. Bozman & Bros.
1046 Granby St., Baltimore, Md.

Brooks Cabinet Co., Inc.
1028 W. 27th St., Norfolk, Va.

Buyers Door & Mfg. Co., Ltd.
374 Pacific Ave., Toronto, Ontario, Can.

Campbell Refrigerator Co.
3200-10 Auer Ave., Milwaukee, Wis.

Cincinnati Butchers' Supply Co.
1972-2008 Central Ave., Cincinnati, Ohio

Cold Storage Refrigerator Co.
Eau Claire, Wis.

Commercial Refrigerator Mfg. Co.
E. 59th St., Los Angeles, Calif.

Continental Machinery Co.
208 S. LaSalle, Chicago, Ill.

Copeland Sales Co.
322 Cass Ave., Mt. Clemens, Mich.

Crystal Refrigerator Co.
Fremont, Neb.

Detroit Butchers' Supply Co.
1455 Gratiot Ave., Detroit, Mich.

Dole Refrigerating Machine Co.
1209 Washington Blvd., Chicago, Ill.

Downing Mfg. Co.
Downing, Wis.

Drayer & Hanson, Inc.
738 E. Pico St., Los Angeles, Calif.

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Eureka Refrigerator Co., Ltd.
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C. F. Fabien Refrigerator Co.
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Fairfield Mfg. Co.
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Federal Asbestos & Cork Insulation Co.
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Ford Refrigerator Co.
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Haskelite Mfg. Corp.
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John Herrel & Sons Co.
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Herrick Refrigerator & Cold Storage Co.
1019 Commercial, Waterloo, Iowa

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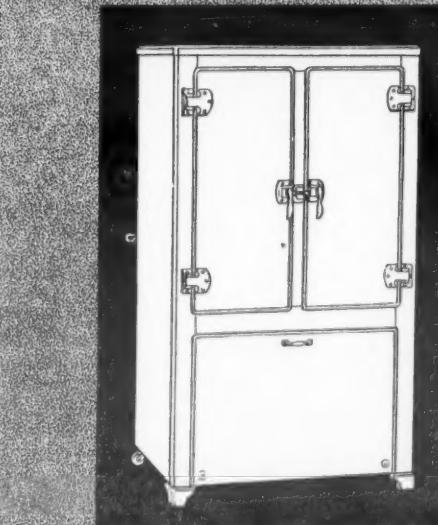
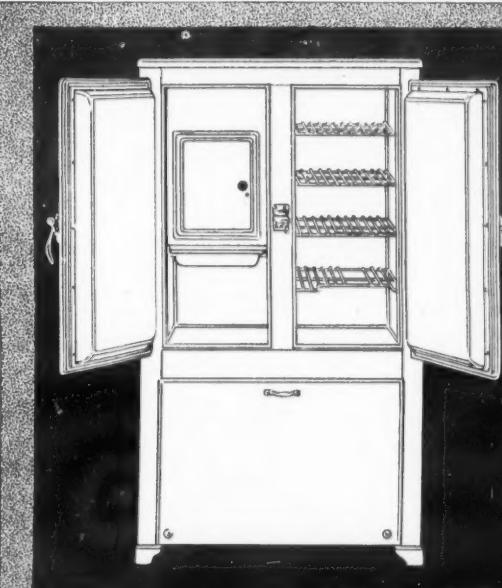
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REFRIGERATOR CABINET DIRECTORY

Manufacturers and Suppliers of Commercial Electric Refrigerator Cabinets

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Rutland, Vt.
- Husman Refrigerator Co.**
A Division of Allied Store Utilities Co.
907 N. Broadway, St. Louis, Mo.
- Hygrade Refrigerator Corp.**
341 Scholes, Brooklyn, N. Y.
- Koch Butchers' Supply Co.**
14th & Gentry, North Kansas City, Mo.
- Kelvinator Corp.**
14250 Plymouth Rd., Detroit, Mich.
- Leonard Refrigerator Co.**
14250 Plymouth Rd., Detroit, Mich.
- Ligonier Refrigerator Co.**
A Division of Allied Store Utilities Co.
Ligonier, Ind.
- C. B. Liver & Co.**
1592-12 Capital Ave., Omaha, Neb.
- Lorillard Refrigerator Co.**
85 Grand St., Kingston, N. Y.
- Louisville Tin & Stove Co.**
Louisville, Ky.
- McCray Refrigerator Co.**
Kendallville, Ind.
- Marinette Showcase Co.**
Marinette, Wis.
- Marson's Store Fixture House, Inc.**
30-38 James St., East Providence, R. I.
- Milburn Refrigerator Co.**
1908 Reed St., Kalamazoo, Mich.
- Milwaukee Refrigerator Co.**
1119 24th St., Milwaukee, Wis.
- Milwaukee Steam Appliance Co.**
West Allis, Wis.
- Mowat Refrigerator Co.**
25 Oak Grove St., San Francisco, Calif.
- National Store Fixture Co.**
Denver, Colo.
- Northey Mfg. Co.**
Waterloo, Iowa
- No Way Fixture Co.**
1106 Central Bldg., Los Angeles, Calif.
- Omaha Fixture & Supply Co.**
11th & Douglas, Omaha, Neb.
- Ottenheimer Bros., Inc.**
Fallsway & Hillen Sts., Baltimore, Md.
- C. L. Percival Co.**
11th & Cherry, Des Moines, Iowa
- Phillips Refrigerator Co.**
393 Keele St., Toronto, Ontario, Canada
- Albert Pick-Barth Co.**
1200 W. 35th St., Chicago, Ill.
- P. B. Polhemus Co.**
110 W. 34th St., New York, N. Y.
- Refrigerating Equipment Co.**
Fourth & Greenhill Ave., Wilmington, Del.
- Rhinelaender Refrigerator Co.**
Rhinelaender, Wis.
- Ruddy Mfg. Co., Ltd.**
Brantford, Ontario, Canada
- St. Louis Butchers' Supply Co.**
1545 N. 15th St., St. Louis, Mo.
- C. Schmidt Co.**
John & Livingstone Sts., Cincinnati, O.
- Schodder Mfg. Co.**
163 Seventeenth St., Wheeling, W. Va.
- Seeger Refrigerator Co.**
Wells & Arcade Sts., St. Paul, Minn.
- Servel Sales, Inc.**
Evansville, Ind.
- Sherer-Gillett Co.**
Marshall, Mich.
- Smart-Holman Co.**
312 Eucalyptus Ave., Inglewood, Calif.
- Standard Refrigerator Co., Inc.**
2539 Germantown Ave., Philadelphia, Pa.
- Viking Refrigerators, Inc.**
7600 Independence Rd., Kansas City, Mo.
- Ward Refrigerator Co.**
6501 S. Alameda, Los Angeles, Calif.
- Warren Co.**
Atlanta, Ga.
- Weber Showcase & Fixture Co.**
Los Angeles, Calif.
- B. Wingard & Sons**
712-715 Commerce St., Tacoma, Wash.
- Zarcone Corp.**
900 N. 95th St., Chicago, Ill.
- Bottle Coolers**
- Aurora Metal Cabinet Wks.**
Aurora, Ill.
- Delaware Industries Co.**
Delaware, Ohio
- Frigidaire Corp.**
Dayton, Ohio
- Hayes Rotary Box Co.**
7-11 Morgan Plan Bank Bldg., Meridian, Miss.
- Liquid Carbonic Corp.**
3100 S. Kedzie Ave., Chicago, Ill.
- S. and S. Products Co.**
Lima, Ohio
- Water Coolers**
- Absopure Refrigeration Corp.**
1860 Theodore St., Detroit, Mich.
- Allon Filter Co.**
25 S. St. Clair St., Toledo, Ohio
- Copeland Sales Co.**
332 Cass Ave., Mt. Clemens, Mich.
- Cordley & Hayes**
147 Hudson St., New York, N. Y.
- Day and Night Water Heater Co.**
2320 E. 8th St., Los Angeles, Calif.
- Domestic Utilities**
Garrison Blvd. & Western Md. R. R., Baltimore, Md.
- Dyer Electric Cooler Corp.**
52 W. 42nd St., New York, N. Y.
- D. A. Ebinger Sanitary Mfg. Co.**
401 W. Town St., Columbus, Ohio
- Filtrine Mfg. Co.**
51-53 Lexington Ave., Brooklyn, N. Y.
- Ford Refrigerator Co.**
219 Mary St., South Jacksonville, Fla.
- Frantz Refrigeration Co.**
404-16 N. Front St., Reading, Pa.
- Frigidaire Corp.**
Dayton, Ohio
- General Electric Co.**
Hanna Bldg., Cleveland, Ohio
- Iceberg Manufacturing Co.**
Gardner, Mass.
- Kelvinator Corp.**
14250 Plymouth Rd., Detroit, Mich.
- Liquid Cooler Corp.**
6527 Russell St., Detroit, Mich.
- Albert Pick-Barth Co.**
1200 W. 35th St., Chicago, Ill.
- Puro Filter Corp.**
436 Lafayette St., New York, N. Y.
- Reading Foundry & Supply Co.**
Reading, Pa.
- Refrigeration Corp.**
2117 N. Charles St., Baltimore, Md.
- Richmond Engineering Co.**
2916 Richmond St., Philadelphia, Pa.
- Rotax Co.**
380 E. 133rd St., New York, N. Y.
- Servel Sales, Inc.**
Evansville, Ind.
- Jas. Spear Stove & Htg. Co.**
1823 Market St., Philadelphia, Pa.
- Halsey W. Taylor Co.**
Warren, Ohio
- Welsbach Co.**
Gloucester, N. J.
- Soda Fountains**
- Bastian-Blessing Co.**
240-258 E. Ontario St., Chicago, Ill.
- Bishop & Babcock Sales Co.**
4901-15 Hamilton Ave., N. E., Cleveland, Ohio
- Hornee A. Carter**
16 E. Marshall St., Richmond, Va.
- Consolidated Cabinet Corp.**
Greenville, Mich.
- Duparquet, Huot & Moneuse Co.**
110 W. 22nd St., New York, N. Y.
- L. Fischman & Sons**
10th & Allegheny Sts., Philadelphia, Pa.
- Glacier Systems, Inc.**
243 W. Broadway, New York, N. Y.
- Holderle Bros., Inc.**
341 Exchange St., Rochester, N. Y.
- Knight Soda Fountain Co.**
2705 N. Kildare Ave., Chicago, Ill.
- Stanley H. Knight Co.**
218 W. Superior St., Chicago, Ill.
- Liquid Carbolic Corp.**
3100 S. Kedzie Ave., Chicago, Ill.
- C. B. Liver & Co.**
1592-12 Capital Ave., Omaha, Neb.
- Albert Pick-Barth Co.**
1200 W. 35th St., Chicago, Ill.
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An organization with a background of refrigerator manufacturing experience. Essentially gasket manufacturers, we are capable of solving all your gasket problems.
- Wirfs PATENTED AIRTITE GASKET**
- is made in five standard sizes. For the manufacturer requiring a special type, we offer the services and experience of an organization devoted exclusively to door gasket manufacturing.
- Let us work from your blueprints.
- DEALERS in electric refrigeration have many occasions to use "AIRTITE" Gasket. Write for samples and prices.
- WIRFS CORPORATION**
135 S. 17th St. St. Louis, Mo.

- Prouty Co., Inc.**
33rd St. at Arch, Philadelphia, Pa.
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5700 Walworth Ave., Cleveland, Ohio
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- United-American Soda Fountain Co.**
101 Walnut St., Watertown, Mass.
- Valerius Refrigeration Corp.**
Jefferson, Wis.
- Walrus Mfg. Co.**
Decatur, Ill.
- Ice Cream Cabinets**
- Absopure Refrigeration Co.**
1560 Theodore St., Detroit, Mich.
- Acorn Opalite-Metal Specialties Co.**
1052-54 W. Monroe St., Chicago, Ill.
- American Car & Foundry Co.**
Ice Cream Cabinet Division
30 Church St., New York, N. Y.
- Anheuser-Busch,**
St. Louis, Mo.
- Automatic Freezer Corp.**
63 N. Howell St., Hillside, Mich.
- Copeland Sales Co.**
332 Cass Ave., Mt. Clemens, Mich.
- Flitzgibbon & Crisp, Inc.**
Trenton, N. J.
- Frigidaire Corp.**
Dayton, Ohio
- Glacier Systems, Inc.**
243 W. Broadway, New York, N. Y.
- Grand Rapids Cabinet Co.**
415 Alabama, N. W., Grand Rapids, Mich.
- C. V. Hill & Co.**
360 Pennington Ave., Trenton, N. J.
- Kelvinator Corp.**
14250 Plymouth Rd., Detroit, Mich.
- Henry G. Loebner Co.**
151 E. 126th St., New York, N. Y.
- Manning Mfg. Co.**
Rutland, Vt.
- Motors-Metal Mfg. Co.**
5936 Milford St., Detroit, Mich.
- C. Nelson Mfg. Co.**
2310-16 Division St., St. Louis, Mo.
- Ralche Manufacturing Co.**
1631 Cardova St., Los Angeles, Calif.
- Refrigerating Equipment Co.**
4th St. & Greenhill Ave., Wilmington, Del.
- Savage Arms Corp.**
100 E. 42nd St., New York, N. Y.
- Servel Sales, Inc.**
Evansville, Ind.
- Stroh Products Co.**
909 E. Elizabeth, Detroit, Mich.
- Taylor Freezer Corp.**
Beloit, Wis.
- Valerius Refrigeration Corp.**
Jefferson, Wis.
- Waltham System, Inc.**
277 Military Rd., Buffalo, N. Y.
- Milk Coolers**
- Cherry Burrell Corp.**
427 W. Randolph St., Chicago, Ill.
- Chester Dairy Supply Co.**
Chester, Pa.
- Copeland Sales Co.**
332 Cass Ave., Mt. Clemens, Mich.
- Creamery Package Mfg. Co.**
1243 W. Washington Blvd., Chicago, Ill.
- Dairy Refrigeration Co.**
311 64th Ave., Milwaukee, Wis.
- Domestic Utilities**
Garrison Blvd. & Western Md. R. R., Baltimore, Md.
- Eesco Cabinet Co.**
104 E. Market St., Westchester, Pa.
- Frigidaire Corp.**
Dayton, Ohio
- General Electric Co.**
Hanna Bldg., Cleveland, Ohio
- Kelvinator Corp.**
14250 Plymouth Rd., Detroit, Mich.
- Manning Mfg. Co.**
Rutland, Vt.
- Nagle Sheet Metal Works**
Herkimer, N. Y.
- Onkes & Burger Co.**
Cattaraugus, N. Y.
- P-T Milk Cooler Co.**
5700 Walworth Ave., Cleveland, Ohio
- A. H. Reid Dairy Supply Co.**
69th & Haverford Sts., Philadelphia, Pa.
- Servel Sales, Inc.**
Evansville, Ind.
- Valerius Refrigeration Corp.**
Jefferson, Wis.
- Victor Products Corp.**
Hagerstown, Md.
- York Ice Machinery Corp.**
York, Pa.



Illustrated here, from top to bottom, open Model LP and P-70; closed Model LP and P-350; closed Model LE-M and LP-M 40.

Rex Manufacturing Co., Inc.
Connersville, Indiana

REX Cabinets are sturdy, graceful and full of utility. Every unit manufacturer, builder, or architect who specifies these cabinets can be sure of two things—cabinets built to meet their needs; service that commands attention. REX is ideally situated to give service—adequate plant equipment assures an always moving production line; craftsmen who know the ins and outs of building cabinets; shipping arrangements which secure prompt delivery. The REX Line is complete in residence and apartment models, from 4 cubic feet to 15 cubic feet (net) storage capacity. The Residence and Apartment Cabinets are offered in a range of sizes suitable for any home or apartment.



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